| H0271: 2, H0290: 2, L0769: 2, L0800: 2, L0775: 2, L0766: 2, L0775: 2, H0547: 2, S0126: 2, S0380: 2, L0752: 2, L0758: 2, L0596: 2, H0295: 1, H0559: 1, H0125: 1, H06559: 1, H0126: 1, N0006: 1, H0126: 1, H0428: 1, H0424: 1, H0428: 1, H0424: 1, H0413: 1, H0424: 1, H0413: 1, H0633: 1, L0768: 1, L0804: 1, L0656: 1, L0804: 1, L0666: 1, L0804: 1, L0666: 1, L0663: 1, L0660: 1, L0663: 1, L0660: 1, L0783: 1, L0660: 1, L0663: 1, L0660: 1, L0663: 1, L0660: 1, L0663: 1, L0660: 1, L0663: 1, L0660: 1, L0783: 1, | |
|--|--|
| | Asp-28 to Glu-34, Ala-38 to Ile-44, Ala-64 to Arg-77, Gly-82 to Ala-88. |
| | 3304 |
| | 2 - 598 |
| | 1129 |
| | HCOPB03R |
| | нсорвоз |

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| | | | | • | | | | | | | | | | | | | | | | — A.M. | | | | | | | |
| | | L0751: 16, L0601: 10, | L0665: 3, S0376: 2, | H0494: 2, L0758: 2, | L0596: 2, H0587: 1, | H0646: 1, L0372: 1, | L0646: 1, L0662: 1, | L0552: 1, L0376: 1, | L0806: 1, L0664: 1, | H0682: 1, H0435: 1, | H0672: 1 and L0744: 1. | | | | | | | L0665: 3, H0682: 2, | H0435: 2, L0751: 2, | H0663: 1, L0021: 1, | H0647: 1, L0806: 1, | L0664: 1, H0683: 1, | H0670: 1 and H0660: 1 | | | | |
| | Phe-1 to Gly-7. | Arg-37 to Gly-44, | . Vor Ci Ci J. Ci | | | | | | | | | | | | Thr-6 to Cys-16, | Tyr-40 to Lys-47, | Ser-61 to Gln-66. | Arg-1 to Ser-7, | Ser-25 to Phe-32, | Leu-39 to Ser-44, | _ | 'n | | Pro-7 to Phe-15, | Gly-26 to Arg-31, | Asp-35 to Glu-43. | Arg-4 to Lys-9, |
| 3305 | 3306 | 3307 | | | | | | | | | | 3308 | 3309 | 3310 | 3311 | | | 3312 | | | | | | 3313 | | | 3314 |
| 3 - 89 | 26 - 541 | 2 - 400 | | | | | | | | | | 243 - 398 | 2 - 328 | 1 - 90 | 140 - 361 | | | 143 - 601 | | | | | | 1 - 267 | | | 3 - 620 |
| 1130 | 1131 | 1132 | | | | | | | | | | 1133 | 1134 | 1135 | 1136 | | | 1137 | | | | | | 1138 | | | 1139 |
| HCOPC45R | HCOPD67R | HCOPE27R | | | | | | | | | | HCOPH51RA | HCOPI09RA | HCOPM42R | HCOPO34R | | | HCOPO36R | | | | | | HCOPO88R | | | HCOPV41R |
| HCOPC45 | HCOPD67 | HCOPE27 | | | | | | | | | | HCOPH51 | HCOPI09 | HCOPM42 | HCOPO34 | | | HCOPO36 | | | | | | HCOPO88 | | | HCOPV41 |

| | AR096: 11, AR061: 10, AR104: 5, AR060: 5, AR089: 5, AR055: 4 L0774: 3, S0358: 2, H0509: 2, L0809: 2, H0670: 2, L0745: 2, L0779: 2, L0752: 2, H0449: 1, T0048: 1, H0449: 1, T0048: 1, H0355: 1, H0428: 1, H0529: 1, L0770: 1, L0761: 1, L0773: 1, L0761: 1, L0773: 1, L0375: 1, L0659: 1, L0375: 1, L0659: 1, L0375: 1, L0791: 1, S0328: 1, H0134: 1, L0743: 1, L0748: 1, L0747: 1 and L0756: 1. | | | |
|--|---|--|-------------------|---------------------------------------|
| Asp-61 to Asn-67, Thr-69 to Lys-75, Leu-105 to Ala-112, Gly-126 to His-134, Gly-172 to Glu-179, Pro-186 to Asn-199. | | His-39 to Asn-45, Cys-68 to Cys-75. | His-37 to Asp-42. | Lys-6 to Asp-11, Gly-22 to Phe-27, |
| , | 3315 | 3316 | 3317 | 3318 |
| | 1 - 582 | 41 - 271 | 1 - 192 | 1 - 582 |
| | 1140 | 1141 | 1142 | 1143 |
| | HCOPZ15R | HCOQA38R | HCOQA80R | HCOQB12R |
| | HCOPZ15 | НСООА38 | HCOQA80 | |

| | H0670: 2 and H0589: 1. | | L0809: 5, L0666: 5, L0751: 5, L0759: 3, H0674: 2, L0768: 2, L0774: 2, L0663: 2, L0779: 2, L0758: 2, | S0360: 1, H0455: 1, H0618: 1, H0263: 1, H0169: 1, H0616: 1, H0059: 1, S0112: 1, L0451: 1, L0770: 1, L0804: 1, L0776: 1, L0783: 1, L0789: 1, L0790: 1, L0791: 1, L0664: 1, L0665: 1, H0670: 1, H0672: 1 and L0608: 1. | | | | |
|--|---------------------------|-----------------|---|--|--|---------------------------------------|-------------------|--|
| His-54 to Gly-63, Asp-73 to Lys-79. | | Lys-1 to Gln-7. | Lys-61 to Leu-71. | | Glu-66 to Arg-72, Pro-148 to Ser-154. | Met-3 to Ser-16, Cvs-25 to Asp-35. | Glu-42 to Lys-52, | Ser-55 to Glu-63, Glu-74 to Thr-79, |
| | 3319 | 3320 | | | 3322 | 3323 | | |
| | 1 - 66 | 281 - 466 | 2 | | 1 - 570 | 106 - 639 | | |
| | 1144 | 1145 | | | 1147 | 1148 | | |
| | нсоовзе нсоовзек | HCOQB58R | | | HCOQD29 HCOQD29R | НСОQD38R | | |
| | нсоов56 | HCOQB58 | | | нсоор29 | нсоор38 | | |

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| | | S0358: 15, S0003: 13, | S0126: 11, L0754: 11, | S0410: 10, H0599: 9, | S0440: 9, H0529: 9, | .0748: 9, H0341: 8, | H0373: 8, H0591: 8, | 0588: 8, L0362: 8, | H0661: 7, S0007: 7, | .0471: 7, L0731: 7, | 10170: 6, T0042: 6, | S0374: 6, H0624: 5, | S0408: 5, H0013: 5, | 10046: 5, H0031: 5, | H0551: 5, H0144: 5, | .0752: 5, H0657: 4, | S0346: 4, S0214: 4, | H0039: 4, H0644: 4, | H0616: 4, H0413: 4, | H0494: 4, H0670: 4, | S0404: 4, S3014: 4, | 0740: 4, L0747: 4, | .0750: 4, L0753: 4, | J0758: 4, L0581: 4, | S0424: 4, S0040: 3, | H0663: 3, H0638: 3, | S0356: 3, \$0360: 3, | S0222: 3, H0497: 3, |
| Ile-81 to Ser-102, | Ser-109 to Glu-118, | Asp-39 to Ser-46. | S | <u>. Ø</u> | S | | <u>工</u> | <u> </u> | <u>=</u> | <u> </u> | E | <u>S</u> | Š | <u> </u> | <u> </u> | J | Š | <u>#</u> | <u>H</u> | <u>H</u> | S | <u>a</u> | 7 | 고 | S | H | S | Š |
| | | 3324 | | | | | | | | | | - | | | | | | | | | | | | | - | | | |
| | | 8 - 196 | | | | | • | | | | | | _ | <u>-</u> | | | | | - | | | | | | | | | |
| | | 1149 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | HCOOD49R | • | | | | | | | | | | | | | | | • | | | | | | | | | | · |
| | | HCOOD49 | , | | | | | | | | - | | | | | | | | | - | | | | | | | | |

| H0575: 3, H0036: 3, S0010: 3, H0052: 3, S0438: 3, H0547: 3, S0328: 3, S0380: 3, S036: 3, S036 | L0757: 3, L0595: 3, H0423: 3, S0114: 2, S0116: 2, S0212: 2, H0484: 2, H0125: 2, S0448: 2, H0580: 2, H0370: 2, H0409: 2, H0331: 2, H0574: 2, H0486: 2, H0156: 2, H0042: 2, H0196: 2, H0581: 2, H0196: 2, | H0083: 2, H0266: 2, H0328: 2, H0615: 2, L0194: 2, L0483: 2, H0673: 2, H0169: 2, S0364: 2, H0316: 2, H0598: 2, S0036: 2, H0090: 2, T0067: 2, S0150: 2, S0344: 2, S0422: 2, S0002: 2, L0762: 2, L0774: 2, L0666: 2, L0438: 2, H0659: 2, H0539: 2, |
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| S0152: 2, H0521: 2, | H0696: 2, S3012: 2, | L0749: 2, L0756: 2, | S0434: 2, L0593: 2, | L0594: 2, L0366: 2, | H0653: 2, H0543: 2, | H0506: 2, H0171: 1, | H0685: 1, H0716: 1, | F0049: 1, S0134: 1, | S0218: 1, H0583: 1, | H0254: 1, H0255: 1, | H0671: 1, H0664: 1, | H0305: 1, L0005: 1, | S0468: 1, H0208: 1, | S0045: 1, S0046: 1, | S6026: 1, H0351: 1, | H0411: 1, H0261: 1, | H0431: 1, H0455: 1, | H0586: 1, H0632: 1, | F0039: 1, L0586: 1, | H0098: 1, H0120: 1, | T0048: 1, S0182: 1, | S0049: 1, H0230: 1, | H0596: 1, T0115: 1, | H0546: 1, H0545: 1, | H0009: 1, H0178: 1, | H0572: 1, H0123: 1, | H0024: 1, H0275: 1, | T0010: 1, H0239: 1, | H0375: 1, H0288: 1, |
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| H0286: 1, H0070: 1, | H0622: 1, T0023: 1, | S0368: 1, T0006: 1, | H0553: 1, H0628: 1, | 32: 1, H0674: 1, | 24: 1, H0068: 1, | H0038: 1, H0634: 1, | .12: 1, H0100: 1, | H0560: 1, H0625: 1, | 61: 1, H0132: 1, | H0130: 1, H0646: 1, | S0142: 1, H0142: 1, | 95: 1, L0369: 1, | L0371: 1, L0373: 1, | 64: 1, L0773: 1, | .0648: 1, L0521: 1, | 49: 1, L0784: 1, | L0776: 1, L0558: 1, | 82: 1, L0787: 1, | 92: 1, L0664: 1, | 65: 1, H0520: 1, | H0519: 1, H0593: 1, | H0689: 1, H0683: 1, | 84: 1, H0435: 1, | H0660: 1, H0648: 1, | 30: 1, H0710: 1, | H0522: 1, S0044: 1, | 46: 1, S0406: 1, | H0555: 1, H0436: 1, | H0447: 1, H0627: 1, |
| H02 | 90H | S03 | H05 | 00H | H01 |)H00 | H04 | H05 | H05 | H01 | S01 ⁴ | 90H | <u>1</u> 03. | 1.07 | <u>1706</u> | <u>106</u> | L07 | L03 | 107 | 106 | H05 | 90H | 90H | 90H | S03. | H05 | S01 | H05 | H04 |
| | | | | • | - - | | <u> </u> | | | | | | | | | | | | | | | | | | | _ | | | |
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| H0444: 1, H0595: 1, L0608: 1, S0011: 1, H0668: 1, S0026: 1, H0136: 1, H0542: 1 and | H0422: 1. | | | | | | L0777: 9, L0766: 5, | L0748: 3, L0439: 3, | H0599: 2, L0774: 2, | L0747: 2, L0749: 2, | L0779: 2, L0731: 2, | H0305: 1, L0534: 1, | H0675: 1, S0046: 1, | H0004: 1, H0083: 1, | L0456: 1, T0042: 1, | S0344: 1, S0002: 1, | L0369: 1, L0770: 1, | L0773: 1, L0803: 1, | L0776: 1, L0809: 1, | L0791: 1, H0658: 1, | H0670: 1, S3012: 1, | L0756: 1, L0780: 1 and | LØ/59: 1. | |
| | | Pro-26 to Asn-34, | Pro-50 to Pro-56, | Arg-64 to Val-69, Val-97 to Lys-103. | • | | Arg-10 to Ser-16. | | | | | | | | | | | | | | | | | |
| | 3325 | 3326 | | | 3327 | 3328 | 3329 | , | | | | | | | | | | | | | | | | 3330 |
| | 1 - 357 | 3-395 | | | 208 - 522 | 2 - 583 | 11 - 187 | | | | | | - | | | | | | | | | | | 1 - 126 |
| | 1150 | 1151 | | . <u>-</u> | 1152 | = | Ξ | | | | | | | | | | | | | | _ | | | 1155 |
| | HCOOF77R | | , | | HCOQG47R | нсоон46 нсоон46R | HCOQI14R | ' | | | | | | | | | | | | | | | | HCOQI67R |
| | HCOOF77 | HC00G37 | , | | HC00G47 | НСООН46 | HCOQ114 | | | | | | | | | | | | | | | | | HC00167 |

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| | | L0752: 4, H0156: 2, L0803: 2, L0776: 2. | H0648: 2, L0439: 2, | H0431: 1, H0575: 1, | H0014: 1, T0023: 1, | H0598: 1, H0591: 1, | H0059: 1, L0772: 1, | L0372: 1, L0764: 1, | L0771: 1, L0773: 1, | L0804: 1, L0774: 1, | L0775: 1, L0375: 1, | L0805: 1, L0629: 1, | L0789: 1, L0665: 1, | L0438: 1, H0658: 1, | H0670: 1 and L0779: 1. | | | | | | | | | L0665: 4, L0743: 4, | H0486: 3, H0123: 3, | H0024: 3, L0528: 3, | L0748: 3, H0170: 2, |
| | | | | | | | | | | | | | | | | | | | Arg-1 to Val-23. | Phe-94 to Glu-102, | Gln-133 to Thr-140. | | | Asn-29 to Gly-38, | Glu-50 to Gln-58. | | |
| 3331 | 3332 | 3333 | | | | | | | | | | | | | | 3334 | 3335 | 3336 | 3337 | 3338 | | 3339 | 3340 | 3341 | | | |
| 8 - 457 | 3 - 707 | 149 - 328 | | : | | | | | | | | | | | | 1 - 471 | 1 - 519 | 3 - 398 | 3 - 143 | 2 - 613 | | 3 - 149 | 75 - 443 | 2 - 430 | | | |
| 1156 | 1157 | 1158 | | | | | | | | | | | | | | 1159 | 1160 | 1161 | 1162 | 1163 | | 1164 | 1165 | 1166 | | | |
| HCOQJ06R | HCOQJ07R | нсоолзе нсоолзек | | • | | | | | | | • | | | | | HCOQJ79R | нсоок 86 нсоок 86 к | HCOQL87 HCOQL87R | HCOQM87 HCOQM87R | HC0Q079 HC0Q079R | | HCOQP32R | HCOQS11R | | | | |
| HCOQ106 | HCOQJ07 | HC0QJ36 | | | | | | | | | | | | | | HCOQJ79 | HCOQK86 | HCOOL87 | HCOQM87 | HC00079 | | HCOQP32 | HCOQS11 | HCOQU15 | | | |

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| H0050: 2, L0769: 2, | H0670: 2, L0747: 2, | L0750: 2, H0171: 1, | H0556: 1, H0583: 1, | H0657: 1, S0212: 1, | H0208: 1, H0619: 1, | S0278: 1, H0550: 1, | S0222: 1, H0438: 1, | H0613: 1, H0331: 1, | H0013: 1, H0635: 1, | H0002: 1, S0474: 1, | H0581: 1, H0009: 1, | L0157: 1, H0012: 1, | S0025: 1, H0239: 1, | H0375: 1, H0266: 1, | H0598: 1, H0135: 1, | H0163: 1, H0087: 1, | H0551: 1, H0494: 1, | S0210: 1, L0640: 1, | L0763: 1, L0646: 1, | L0387: 1, L0766: 1, | L0805; 1, L0776; 1, | L0655: 1, L0657: 1, | H0144: 1, H0520: 1, | H0547: 1, H0519: 1, | H0689: 1, H0658: 1, | H0576: 1, L0779: 1 and | L0759: 1. | L0805: 7, L0776: 4, | L0748: 4, H0545: 3, |
| | | | | | | | | | | | | | - | | | | | | | | | | | | | | • | Ile-3 to Arg-8, | Pro-17 to Ser-22, |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3342 | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | HCOQU92 HCOQU92R | |
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| 1: 3, | 2: 3, | 9: 2, | 6: 2, | 9: 2, | . 2, | 3: 2, | 5: 2, | 3: 2, | 4: 2, | 0: 2, | 5.2, | 5.2, | 0: 1, | 2: 1, | 5: 1, |): 1, | 1: 1, | 5: 1, |): 1, | 3: 1, | 0: 1, | 5: 1, | 9: 1, | 5: 1, | . 1, | F.1, | .1, | 1.1, | 5.1, |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| S0438: 3, H0641: 3, | L0588: 3, L0592: 3, | T0049: 2, H0549: 2, | H0431: 2, H0486: 2, | L0471: 2, H0169: 2, | S0372: 2, L0520: 2, | L0553: 2, L0768: 2, | L0649: 2, L0655: 2, | L0527: 2, L0783: 2, | L0532: 2, H0144: 2, | H0682: 2, H0670: 2, | S0378: 2, S0406: 2, | L0750: 2, S0026: 2, | H0542: 2, H0170: 1, | H0716: 1, S0212: | H0638: 1, H0125: | S0444: 1, H0580: | H0393: 1, H0411: | H0587: 1, L0586: | T0114: 1, H0390: | T0048: 1, H0318: | H0596: 1, H0620: | H0375: 1, T0006: | H0606: 1, H0429: | S0294: 1, H0386: | L0770: 1, L0769: | L3904: 1, L0374: | L0773: 1, L0662: | L0766: 1, L0803: | L0774: 1, L0526: |
| Ser-28 to Ser-34, | Thr-45 to Thr-56, | Ser-58 to Thr-63, | Tyr-74 to Thr-79. | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0809: 1, L0793: 1, L0664: 1, S0053: 1, H0689: 1, H0684: 1, H0659: 1, H0658: 1. | H0648: 1, S0330: 1, H0521: 1, H0522: 1, | S0404: 1, L0749: 1, | LU/80: 1, LU/31: 1 and H0543: 1. | H0250: 35, L0770: 9, | H0635: 6, L0483: 6, | L0766: 6, H0521: 6, | L0745: 6, S0003: 5, | H0623: 5, L0776: 5, | H0445: 5, S0408: 4, | H0411: 4, H0634: 4, | H0641: 4, L0598: 4, | H0650: 3, H0656: 3, | S0360: 3, H0574: 3, | H0486: 3, H0373: 3, | H0687: 3, H0591: 3, | H0040: 3, L0662: 3, | L0775: 3, L0665: 3, | S0216: 3, L0748: 3, | L0777: 3, S0134: 2, | H0663: 2, S0007: 2, | H0550: 2, H0013: 2, | H0581: 2, H0510: 2, | S0214: 2, H0615: 2, | H0674: 2, S0440: 2, |
| | | | | Glu-1 to Lys-17, | Val-25 to Asn-30, | Phe-36 to Pro-42. | | | | | | | | | , | | | | | | | | | |
| | • | | | 3343 | | | | | | | | | | | | | | | | | | | | |
| | | | | 3 - 239 | | | | | | | | | | | | | | | | | | | | |
| | | | | 1168 | | | | | | | | | | | | | | | | | | | | |
| | | | | HCOQV27 HCOQV27R | | | | | | | | | | | | | | | | | | | | |
| | | | | HCOQV27 | | | | | | | | | | | | | | | | | | | | |

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| | | | | | | | | | | | | | | | | | - | | | | | | | | | | | | |
| .0771: 2, L0653: 2, | H0658: 2, H0710: 2, | 10518: 2, S0206: 2, | L0744: 2, L0754: 2, | 0750: 2, L0779: 2, | .0731: 2, S0434: 2, | .0605: 2, L0485: 2, | 0362: 2, L0366: 2, | H0543: 2, H0423: 2, | 10170: 1, S0114: 1, | T0049: 1, S0218: 1, | 0002: 1, H0346: 1, | .0661: 1, H0638: 1, | 0418: 1, S0356: 1, | 0354: 1, S0358: 1, | 0376: 1, H0580: 1, | .0619: 1, H0645: 1, | L0717: 1, H0431: 1, | (0609: 1, H0587: 1, | H0632: 1, H0427: 1, | 30280: 1, L0021: 1, | H0599: 1, H0004: 1, | S0049: 1, H0309: 1, | H0596: 1, H0024: 1, | 30362: 1, H0179: 1, | H0271: 1, H0416: 1, | S0336: 1, S0316: 1, | H0328: 1, H0622: 1, | H0553: 1, H0032: 1, | H0124: 1, H0708: 1, |
| Ā | H | H | <u> </u> | <u>.</u> | <u> </u> | <u> </u> | <u>.</u> | Ħ | H | Ē | i | Ξ | Š | <u>S</u> | S | Ĭ | ā | 耳 | Ħ | Š | <u> </u> | S | 耳 | <u>S</u> | 耳 | <u> </u> | ഥ | 耳 | H |
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| S0366: 1, H0087: 1, T0067: 1, H0100: 1, S0294: 1, H0633: 1, H0649: 1, S0422: 1, L0794: 1, L0764: 1, L0794: 1, L0794: 1, L0794: 1, L0794: 1, L0794: 1, L0792: 1, L0791: 1, L0792: 1, L0791: 1, L0792: 1, L0791: 1, L0669: 1, S0052: 1, S0428: 1, H0699: 1, H0703: 1, H0699: 1, H0703: 1, H0659: 1, H0670: 1, H0555: 1, H0478: 1, L0746: 1, L0746: 1, L0758: 1, L0746: 1, L0758: 1, L0361: 1, S00242: 1, S0026: 1, S00242: 1, S0026: 1, S00242: 1, S0026: 1, S00242: 1, S0026: 1, S00242: 1 | .1. <i>326.</i> 1. | | S0282: 1, L0021: 1, S0438: 1, L0775: 1, L0666: 1, L0663: 1. |
|--|--------------------|----------|---|
| · , | Trp-2 to Gly-7. | | |
| | 3344 | 3345 | 3346 |
| | 23 - 439 | 1 - 321 | 271 - 510 |
| · | 1169 | | 1171 |
| | HCOOX38R | HCOQY33R | нсооу 43 нсооу 43 к |
| | HCOOX38 | HC0QY33 | нсоох43 |

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| | | | | | | | | | | | | | | | | | | | | | | | _ | | | | | |
| H0659: 1, H0670: 1 and | L0758: 1. | | | | | | | L0770: 3, H0685: 1, | H0581: 1, H0553: 1, | S0150: 1 and H0670: 1. | L0754: 14, H0052: 13, | L0748: 13, H0556: 12, | L0591: 12, L0755: 11, | L0752: 10, L0731: 9, | L0601: 9, L0439: 8, | L0777: 8, L0596: 8, | H0046: 7, H0521: 7, | L0758: 7, H0599: 6, | H0622: 6, S0002: 6, | L0646: 6, L0593: 6, | H0265: 5, S0474: 5, | L0776: 5, L0666: 5, | L0741: 5, L0747: 5, | S0026: 5, H0543: 5, | H0619: 4, S0222: 4, | H0013: 4, H0590: 4, | H0544: 4, H0620: 4, | H0124: 4, H0038: 4, |
| | • | Lys-1 to Lys-13. | | Pro-1 to Phe-15. | Val-1 to Gly-9. | | Asn-1 to Gly-8. | Asn-7 to Pro-33, | Gly-40 to Gly-46, | Tyr-49 to Tyr-71. | Leu-35 to Tyr-40. | • | | | | | | | | | | | | | | | | |
| | , | 3347 | 3348 | 3349. | 3350 | 3351 | 3352 | 3353 | | | 3354 | | | | | | | | | | | | | | | | | |
| | | 387 - 473 | 1 - 507 | 2 - 136 | 14 - 292 | 1 - 303 | 3-611 | 105 - 317 | | | 3 - 419 | | | | | | | | | | | | | | | | | |
| | | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | | | 1179 | | _ | | | | | | | | | | | | | | | |
| | | HCOQZ02R | HCOQZ86 HCOQZ86R | HCORA95 HCORA95R | HCORB20R | HCORB43 HCORB43R | HCORB66R | HCORI18R | | | HCOR125R | | | | | | - | | | | | | | | | | | |
| | | HCOQZ02 | HC00Z86 | HCORA95 | HCORB20 | HCORB43 | HCORB66 | HCORI18 | | | HCOR125 | | | | | | | | | | | | | | | | | |

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|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| S0386: 4, L0766: 4, | .0659: 4, H0547: 4, | H0670: 4, S0378: 4, | .0740: 4, L0749: 4, | _0750: 4, S0434: 4, | .0588: 4, L0589: 4, | S0040: 3, H0580: 3, | S6026: 3, H0486: 3, | S0010: 3, S0051: 3, | 0010: 3, H0083: 3, | H0266: 3, S0250: 3, | 10031: 3, H0591: 3, | S0142: 3, S0344: 3, | H0529: 3, L0770: 3, | .0769: 3, L0761: 3, | .0662: 3, L0774: 3, | .0653: 3, L0663: 3, | ,0665: 3, L0438: 3, | H0435: 3, S0152: 3, | 10696: 3, S0342: 2, | F0049: 2, H0657: 2, | S0212: 2, H0638: 2, | S0418: 2, S0354: 2, | S0444: 2, S0360: 2, | S0046: 2, S0132: 2, | S0476: 2, L0717: 2, | S0278: 2, H0549: 2, | H0438: 2, H0587: 2, | H0333: 2, H0427: 2, | H0706: 2, H0545: 2, |
| S | | H | 크 | <u> </u> | 7 | Š | <u>X</u> | <u>S</u> | Ē | <u> </u> | H | S | <u> </u> | | 2 | 7 | <u>ਰ</u> | <u> </u> | E | <u></u> | <u>S</u> | S | S | S | Š | <u> </u> | <u> </u> | <u>. ##</u> | H |
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| H0050: 2, H0012: 2, S0050: 2, H0014: 2, | S6028: 2, H0188: 2, | H0617: 2, S0364: 2, | 56: 2, H0063: 2, | H0087: 2, H0059: 2, | S0038: 2, T0042: 2, | H0560: 2, H0561: 2, | 09: 2, H0641: 2, | 47: 2, L0764: 2, | 71: 2, L0775: 2, | L0655: 2, L0517: 2, | 83: 2, L0664: 2, | 55: 2, H0519: 2, | H0658: 2, H0631: 2, | 90: 2, S3014: 2, | L0745: 2, L0757: 2, | 36: 2, L0599: 2, | 95: 2, L0362: 2, | S0011: 2, H0653: 2, | 65: 2, H0667: 2, | H0542: 2, H0423: 2, | H0422: 2, T0002: 1, | H0222: 1, H0686: 1, | H0717: 1, H0255: 1, | H0661: 1, H0663: 1, | H0662: 1, H0458: 1, | S0420: 1, S0442: 1, | S0376: 1, H0208: 1, |
| H00 S005 | 209S | 90H | S03 | H00. | S00S | H05 |)SOH | 90H | 1077 | 7907 | 3/07 | 105¢ | H06; | S03 | 7/0T | S043 | [T026 | S001 | 190H | H05 | H04. | H02. | H07 |)90H |)90H | S042 | S037 |
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| S0045: 1, H0645: 1, | S0300: 1, H0406: 1, | S0220: 1, H0431: 1, | , H0404: 1, | , H0586: 1, | , H0492: 1, | , H0069: 1, | , H0156: 1, | , H0618: 1, | H0253: 1, S0049: 1, | H0194: 1, H0251: 1, | T0103: 1, T0115: 1, | , H0457: 1, | , H0569: 1, | , H0154: 1, | , S0362: 1, | , H0355: 1, | H0510: 1, H0375: 1, | , S0022: 1, | , H0644: 1, | , H0032: 1, | , S0036: 1, | H0040: 1, H0616: 1, | H0551: 1, H0268: 1, | , H0623: 1, | H0100: 1, H0494: 1, | S0440: 1, H0131: 1, | H0130: 1, H0633: 1, | S0422: 1, S0426: 1, | , L3905: 1, |
|---------------------|---------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------------|---------------------|---------------------|-------------|-------------|-------------|-------------|--------------------|---------------------|-------------|-------------|-------------|-------------|---------------------|---------------------|--------------|---------------------|---------------------|---------------------|---------------------|-------------|
| S0045: 1. | S0300: 1 | S0220: 1, | H0455: 1 | H0600: 1 | H0642: 1 | T0109: 1 | S0280: 1, | H0004: 1 | H0253: 1 | H0194: 1 | T0103: 1, | H0327: 1 | L0041: 1, | L0471: 1 | H0015: 1 | H0239: 1 | H0510: 1 | H0594: 1 | H0428: 1 | H0628: 1 | L0456: 1, | H0040: 1 | H0551: 1 | H0056: 1 | H0100: 1 | S0440: 1, | H0130: 1 | S0422: 1, | L0369: 1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0667: 1, L0363: 1, L0794: 1, L0803: 1, L0375: 1, L0651: 1, L0806: 1, L0805: 1, L0654: 1, L0379: 1, L0526: 1, L079: 1, L0647: 1, L0791: 1, S0428: 1, H0144: 1, S0374: 1, H0520: 1, S0378: 1, H0571: 1, H0660: 1, H0672: 1, S0328: 1, H0672: 1, S0328: 1, L0744: 1, L0743: 1, L0744: 1, L0743: 1, L0744: 1, L0751: 1, S0031: 1, S0394: 1, L0592: 1, L0485: 1, L0608: 1, L0485: 1, L0608: 1, L0366: 1, H0136: 1, | | | | | | | | - | |
|---|------------------|-------------------|-------------------|-------------------|-------------------|---------------------|----------|-------------------|-----------------|
| | Glu-9 to Gly-17. | Lys-14 to Gly-26, | Glu-33 to Arg-44, | Pro-64 to Pro-69, | Pro-79 to Asn-88, | Thr-109 to Pro-123. | | Ala-17 to Asn-23. | Ser-1 to Thr-8, |
| | 3355 | 3356 | | | | | 3357 | 3358 | 3359 |
| | 48 - 206 | 1 - 537 | | - | | | 2 - 463 | 158 - 325 | 37 - 303 |
| | 1180 | 1181 | | • | | | 1182 | 1183 | 1184 |
| | HCQCR82R | HCRME42R | | | | | HDABR53R | HDLBE03R | HDPF126R |
| | HCQCR82 | ├ | | | | | HDABR53 | HDLBE03 | HDPF126 |

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|--|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|
| | | | | | | | • | | | | | | | | | | | | | | | | | | | | |
| . ! | L0759: 10, L0774: 3, H0648: 3, H0686: 2 | S0360: 2, L0622: 2, | H0486: 2, L0521: 2, | L0775: 2, H0659: 2, | S0328: 2, L0779: 2, | L0755: 2, H0341: 1, | 80354: 1, 80358: 1, | H0351: 1, S0222: 1, | L0021: 1, H0025: 1, | L0105: 1, T0115: 1, | H0545: 1, H0571: 1, | H0050: 1, L0471: 1, | S6028: 1, S0003: 1, | H0031: 1, H0316: 1, | H0038: 1, H0087: 1, | H0494: 1, H0509: 1, | S0142: 1, L0520: 1, | L0769: 1, L0638: 1, | L0772: 1, L0794: 1, | L0803: 1, L0804: 1, | L0382: 1, L0367: 1, | L0665: 1, S0374: 1, | H0690: 1, H0684: 1, | S0044: 1, S3012: 1, | S0027: 1, L0744: 1, | L0777: 1, L0758: 1, | L0604: 1, S0026: 1 and |
| Glu-17 to Ala-32, Arg-39 to Trp-47. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3360 | | • | | | | | | | | | | | | | | | | | | | | | | | | |
| | 133 - 414 | | | | | | | | | | | | | | | | | | | • | | | | | | | |
| | 1185 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HDTAQ74R | | | | | | | | | | | | | | | | | • | | | | | | | | | |
| ٠ | HDTAQ74 | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | L0748: 50, L0754: 42, | .0731: 31, H0644: 30, | .0747: 29, H0551: 22, | S0418: 21, L0659: 17, | H0619: 15, L0663: 14, | 3, S0360: 10, | 0, H0031: 10, | H0553: 10, L0662: 10, | S0126: 10, L0757: 10, | .0603: 10, S0420: 8, | H0486: 8, H0013: 8, | H0050: 8, H0623: 8, | .0717: 7, H0144: 7, | .0770: 6, L.0750: 6, | H0427: 5, H0024: 5, | H0328: 5, H0030: 5, | L0773: 5, L0665: 5, | H0713: 4, | F0039: 4, S0280: 4, | H0012: 4, H0038: 4, | .0794: 4, L0774: 4, | .0775: 4, L0805: 4, | H0624: 3, H0170: 3, | H0171: 3, S0356: 3, | H0329: 3, S0046: 3, |
|------------|--|-------------------|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------|---------------|-----------------------|-----------------------|----------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|-----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| \$0276: 1. | | | | L0748: | L0731: 3 | 1.0747: 29 | S0418: 21 | H0619: 1 | L0666: 13 | H0622: 10 | H0553: 10 | S0126: 10 | L0603: 10 | H0486: 8, | H0050: 8, | L0717: 7, | L0770: 6, | H0427: 5, | H0328: 5, | L0773: 5, | L0749: 5, | T0039: 4, | H0012: 4, | L0794: 4, | L0775: 4, | H0624: 3, | H0171: 3, | H0329: 3, |
| | Leu-21 to Ala-27, Pro-48 to Gly-55. | Ala-14 to Leu-20. | Tyr-25 to Phe-32. | | | | | | | | | | | | | | | | | | | | | | | | | • |
| | 3361 | 3362 | 3363 | 3364 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 231 - 431 | 207 - 431 | 102 - 215 | 179 - 364 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1186 | 1187 | 1188 | 1189 | | | | _ | | | | | | | | | | | | | | | | | | | | |
| | HDTBP08R | HDTDA21R | HDTDB88R | HDTJR38R | | • | | | • | | | | | | | | | | | | | | | | | | | |
| | HDTBP08 | HDTDA21 | HDTDB88 | HDTJR38 | | | | | | | | | | | | | | | | | | | | | | | | |

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| H0331: 3, H0575: 3, | L0471: 3, H0620: 3, | S0250: 3, H0032: 3, | H0591: 3, L0598: 3, | L0803: 3, L0653: 3, | L0657: 3, H0670: 3, | S0406: 3, H0555: 3, | L0780: 3, L0605: 3, | H0667: 3, H0717: 2, | T0049: 2, S0212: 2, | H0661: 2, S0376: 2, | S0007: 2, H0208: 2, | S0476: 2, H0645: 2, | H0411: 2, H0437: 2, | H0550: 2, H0586: 2, | H0333: 2, H0599: 2, | H0042: 2, H0545: 2, | H0123: 2, H0105: 2, | H0014: 2, H0051: 2, | H0375: 2, L0142: 2, | H0598: 2, H0135: 2, | H0040: 2, S0372: 2, | L0520: 2, L0640: 2, | L0769: 2, L5566: 2, | L0772: 2, L0646: 2, | L0771: 2, L0363: 2, | L0768: 2, L0375: 2, | L0654: 2, L0776: 2, | L0809: 2, L0438: 2, | H0547: 2, H0519: 2, |
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|---------------------|---------------------|-------------------|---------------------|---------------------|---------------------|-------------------|---------------------|-------------------|-------------------|---------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| .0602: 2, L0743: 2, | .0744: 2, L0439: 2, | 758: 2, L0759: 2, | .0588: 2, L0599: 2, | .0361: 2, H0716: 1, | H0294: 1, S0430: 1, | 298: 1, S0132: 1, | H0351: 1, H0369: 1, | 222: 1, H0370: 1, | 392: 1, H0409: 1, | H0587: 1, H0574: 1, | 485: 1, T0040: 1, | .0060: 1, H0244: 1, | .0021: 1, H0003: 1, | H0036: 1, H0274: 1, | H0253: 1, H0505: 1, | H0251: 1, H0544: 1, | H0546: 1, H0046: 1, | H0081: 1, H0019: 1, | F0003: 1, H0057: 1, | 015: 1, H0373: 1, | H0275: 1, H0594: 1, | S0003: 1, H0039: 1, | H0111: 1, H0674: 1, | S0364: 1, S0036: 1, | H0090: 1, H0063: 1, | HO087: 1, H0268: 1, | H0412: 1, H0059: 1, | H0100: 1, L0564: 1, | H0561: 1, S0210: 1, |
| 07 | <u>ro</u> | <u>ro</u> | TO | 10. | OH) | SOS | OH HO | 30X | OH | HO | OH HO | <u>TO</u> | <u>01</u> | HO | HO | HO | HO | HO | TO | OH | HO |)OS | OH | 203 | OH | OH | HO | OH HO | HO |
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| L0369: 1, L3904: 1, L0800: 1, L0641: 1, L0804: 1, L0564: 1, L0804: 1, L0807: 1, L0806: 1, L0807: 1, L0526: 1, L0788: 1, L0788: 1, L0791: 1, L0793: 1, S0374: 1, H0689: 1, H0682: 1, H0684: 1, H0658: 1, H0672: 1, H0658: 1, H0658: 1, H0658: 1, S0146: 1, S0037: 1, S0028: 1, S0028: 1, S0037: 1, S0028: 1, L06445: 1, L0689: 1, L0690: 1, L0485: 1, L0604: 1, H0668: 1, H0653: 1, L0608: 1, S0024: 1, H0668: 1, H0653: 1, L0608: 1, H0668: 1, H0668: 1, H0653: 1, L0608: 1, H0668: 1, H0008: 1. | | | | |
|--|---------------------------------------|---------------------------------------|--|-------------------|
| | Thr-8 to Thr-22, Phe-42 to Lys-51, | Arg-1 to Cys-23, Trp-25 to Ser-35. | Ser-10 to Thr-34, Ser-37 to Asn-89. | Thr-15 to Ser-26. |
| | 3365 | 3366 | 3367 | 3368 |
| | 1 - 288 | 3 - 170 | 32 - 376 | 3 - 128 |
| | 1190 | 1191 | 1192 | 1193 |
| | HE8QX44R | HE9QU94R | HEAHF02R | HEEAY40R |
| | HE8QX44 | НЕ9QU94 | HEAHF02 | HEEAY40 |

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| | H0457: 14, L0751: 13, | H0617: 8, L0761: 7, | L0666: 6, L0664: 6, | L0665: 6, H0593: 6, | L0662: 5, L0748: 5, | H0052: 4, H0014: 4, | H0529: 4, L0655: 4, | L0809: 4, L0663: 4, | H0436: 4, L0747: 4, | L0758: 4, H0592: 3, | H0587: 3, H0581: 3, | L0763: 3, L0769: 3, | L0659: 3, H0539: 3, | L0779: 3, S0434: 3, | H0506: 3, H0295: 2, | H0650: 2, H0657: 2, | L0005: 2, S0356: 2, | S0442: 2, S0354: 2, | S0360: 2, H0580: 2, | H0733: 2, H0553: 2, | H0135: 2, H0560: 2, | H0625: 2, H0647: 2, | L0374: 2, L0657: 2, | L0647: 2, H0682: 2, | H0672: 2, H0521: 2, | S0028: 2, L0743: 2, | L0749: 2, L0752: 2, | L0755: 2, L0759: 2, | L0593: 2, S0446: 2, |
| Glu-9 to Gly-17. | Pro-13 to Leu-25. | | | • | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3369 | 3370 | | | | | | | | | | | | | • | | | • | | | | - | | | | - | | | | , |
| 45 - 221 | 96 - 395 | | | . • | , | | | | | | | | | | | | | | | | | | | | | | | | |
| 1194 | 1195 | | • | | • | | | | | | | | | | | | | | | | | | | | | | | | |
| HEGAF68R | | | | | , | | | | | | | | | | | | | | | | | | | | | | | | |
| HEGAF68 | HEOSP11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| 6: 1, | 7:1, | 1:1, | 3: 1, | 8:1, | 3: 1, | 3: 1, | | 9:1, | 1: 1, | 0: 1, | 9: 1, | 3: 1, | 9: 1, | 8: 1, | #: 1, | l: 1, | 5: 1, | 7: 1, | 0: 1, | : 1, | 7: 1, | 2: 1, | 3: 1, | L: 1, | 6: 1, | 4: 1, | 2: 1, | |): 1, |
| L0600: 2, H0556: 1 | H0686: 1, H0717: 1 | H0656: 1, S0001: 1 | H0661: 1, H0663: 1 | H0402: 1, S041 | S0420: 1, S0358 | S0376: 1, S0408: 1, | S0045: 1, S0132 | H0619: 1, H0549: 1 | S0222: 1, H044 | H0392: 1, H0600: 1, | H0586: 1, H055 | H0486: 1, H001 | S0280: 1, H059 | H0575: 1, H0618: 1 | H0318: 1, S047 | S0049: 1, H025 | T0115: 1, H0545: 1, | H0009: 1, H056 | H0571: 1, H0050: 1, | L0471: 1, S0051: 1 | S6028: 1, H068 | H0428: 1, H0622: | T0006: 1, H021. | L0142: 1, H0181: | H0032: 1, H005 | H0100: 1, H0494: 1 | H0561: 1, H0652: | S0142: 1, S0344: 1 | L0625: 1, L0770: |
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| 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1 | | ٠ | | | 7: 10, | 6, 5, |
| L0639: 1, L0646: 1 L0800: 1, L0641: 1 L0642: 1, L0648: 1 L0794: 1, L0766: 1 L0749: 1, L0650: 1 L0653: 1, L0776: 1 L0629: 1, L0656: 1 L0636: 1, L5623: 1 L0792: 1, S0428: 1, H0690: 1, H0684: 1 H0658: 1, H0684: 1 H0658: 1, L0611: 1 R0555: 1, L0611: 1 L0744: 1, L0777: 1, S0436: 1, L0601: 1, L0366: 1, S0106: 1, S0192: 1, H0423: 1 S0424: 1. | | | | | H0594: 18, L0777: 10, | L0766: 6, H0595: 6, H0170: 5, H0373: 5, |
| | Asn-4 to Tyr-9. | Ala-16 to Arg-26, Pro-68 to Gly-78. | | | | |
| | 3371 | 3372 | 3373 | 3374 | 3375 | |
| | 26 - 112 | 102 - 365 | 2 - 409 | 32 - 151 | 2 - 211 | |
| · | 1196 | 1197 | 1198 | 1199 | 1200 | |
| | HFABK01R | HFADS75R | HFIBG63R | HFIJB15R | HFIXK57R | |
| | HFABK01 | HFADS75 | HFIBG63 | HFIJB15 | HFIXK57 | |

| .0598: 5, L0665: 5, | S0412: 5, H0411: 4, | .0662: 4, L0756: 4, | J0731: 4, S0260: 4, | H0624: 3, H0171: 3, | 282: 3, S0388: 3, | L0776: 3, L0752: 3, | 758: 3, S0194: 3, | L0717: 2, S0280: 2, | 428: 2, H0063: 2, | 50344: 2, S0422: 2, | 650: 2, L0659: 2, | L0666: 2, L0663: 2, | 439: 2, H0685: 1, | S0218: 1, H0650: 1, | H0177: 1, H0402: 1, | S0358: 1, S0360: 1, | S0046: 1, S0278: 1, | H0550: 1, S0222: 1, | H0431: 1, H0600: 1, | H0592: 1, H0587: 1, | 486: 1, L0021: 1, | H0599: 1, H0037: 1, | H0263: 1, H0545: 1, | H0050: 1, H0057: 1, | .0163: 1, T0023: 1, | 1598: 1, S0036: 1, | H0551: 1, H0100: 1, | H0359: 1, L0065: 1, | H0649: 1, L0769: 1, |
|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|
| 07 | 08 | 07 | 2 | OH | SOS | <u> </u> | <u>a</u> | <u> </u> |)HO | S | <u>곱</u> | <u></u> | <u></u> | 08 | H0 | 200 | 20 | OH HO | OH HO | OH HO | OH H | OH HO | 0H) | OH | 07 | OH HO |)H |)H | HIC |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | , | | |
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| L0761: 1, L0667: 1, L0630: 1, L0372: 1, L0533: 1, L0775: 1, L0651: 1, L0806: 1, L0655: 1, L0656: 1, S0374: 1, H0547: 1, S0328: 1, H0547: 1, H0696: 1, L0741: 1, L0744: 1, L0741: 1, L0759: 1, S0031: 1, L0759: 1, S0031: 1, L0485: 1, L0362: 1, | 50398: 1. | | AR089: 4, AR096: 3, AR033: 3, AR060: 3, AR061: 1, AR104: 1, AR055: 1, AR053: 0, AR039: 0, AR052: 0 H0583: 1, H0662: 1, S0222: 1, S0049: 1, H0272: 1, H0670: 1, H0521: 1, H0555: 1 and S0436: 1. | |
|--|-----------|-------------------|--|------------------|
| | 9 | Lys-17 to Thr-23. | Pro-75 to Cys-89. | Cys-5 to Pro-21, |
| | 3376 | 3378 | 3379 | 3380 |
| | 18 - 137 | 75 - 233 | 1 - 270 | 18 - 314 |
| | 1201 | 1203 | 1204 | 1205 |
| | HFIZQ64R | HFPEC93R | HFPIX37R | HFTDK36R |
| | HFIZQ64 | HFPEC93 | HFPIX37 | HFTDK36 |

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| | | | · | S0001: 1 | | | | | H0666: 13, S0358: 10, | H0620: 10, L0750: 8, | L0747: 7, L0731: 7, | H0135: 5, L0659: 5, | L0740: 5, L0757: 5, | S0360: 4, H0123: 4, | S0022: 4, L0666: 4, | L0665: 4, S0028: 4, | L0748: 4, L0777: 4, | L0588: 4, H0265: 3, | S0420: 3, H0208: 3, | H0545: 3, H0046: 3, | H0024: 3, H0284: 3, | H0100: 3, L0650: 3, | L0375: 3, L0382: 3, | H0651: 3, L0755: 3, | H0352: 3, S0278: 2, | H0592: 2, H0333: 2, | H0253: 2, H0544: 2, | H0081: 2, H0012: 2, | H0266: 2, H0286: 2, |
| His-66 to Leu-77, | Gln-80 to Ala-88, | Tyr-92 to Ser-98. | | | Val-24 to Leu-31. | | | Arg-2 to Ser-7. | | | | | | | | | | | | | | | | | | | | | |
| | | | 3381 | 3382 | 3383 | 3384 | 3385 | 3386 | 3387 | | | | | | | | | | | | | | | | | | | | |
| | | | 11 - 250 | 353 - 57 | 304 - 426 | 54 - 230 | 1 - 474 | 53 - 277 | 181 - 426 | | | | | | | | | | | | | | | | | | | | |
| | | | 1206 | 1207 | 1208 | | 1210 | | 1212 | | | | | | | | | | | | | | | | | | | | |
| | | | HFVIB28R | HFXGR60R | HHAUD07R | | HHEVG50 HHEVG50R | HHFGQ65 HHFGQ65RA | HHFOE48 HHFOE48RP | 00B | | | | | | | | | | | | | | | | | | | |
| | | | HFVIB28 | HFXGR60 | HHAUD07 | HHBF021 | HHEVG50 | HHFGQ65 | HHFOE48 | | | | | | | | | | | | | | | | | | | | |

| | - | 7 J - 1 | | | • | | | | | · | | | • | | | | | | | | | | | | | | • | | |
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| H0252: 2, H0428: 2, | H0628: 2, H0551: 2, | S0210: 2, L0763: 2, | L0770: 2, L0774: 2, | L0661: 2, L0518: 2, | L0809: 2, H0547: 2, | H0682: 2, H0670: 2, | S0037: 2, S0027: 2, | L0751: 2, L0752: 2, | L0758: 2, L0601: 2, | H0668: 2, S0194: 2, | H0170: 1, H0556: 1, | H0686: 1, S0040: 1, | H0716: 1, H0295: 1, | H0341: 1, H0638: 1, | S0418: 1, S0376: 1, | S0444: 1, H0580: 1, | H0329: 1, S0468: 1, | S0045: 1, S0046: 1, | S0132: 1, S0476: 1, | H0619: 1, H0645: 1, | L0717: 1, H0549: 1, | H0550: 1, H0586: 1, | H0587: 1, L0021: 1, | H0575: 1, H0581: 1, | H0052: 1, H0309: 1, | H0546: 1, H0457: 1, | H0150: 1, H0041: 1, | H0563: 1, H0050: 1, | L0163: 1, H0051: 1, |
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| H0615: 1, H0688: 1, H0031: 1, H0634: 1, | H0087: 1, H0334: 1, | H0633: 1, H0646: 1, | • | L0643: 1, L0764: 1, | £, | L0775: 1, L0651: 1, | L0806: 1, L0805: 1, | L0776: 1, L0656: 1, | L0783: 1, L0383: 1, | L0543: 1, L0789: 1, | L0663: 1, H0593: 1, | H0684: 1, H0659: 1, | H0658: 1, H0660: 1, | H0709: 1, S0152: 1, | H0521: 1, H0627: 1, | L0611: 1, L0439: 1, | L0745: 1, L0759: 1, | L0593: 1, L0361: 1, | L0603: 1, S0026: 1, | H0667: 1 and H0506: 1. | | | | | | | | L0752: 11, L0662: 9, |
| | | | | | | | • | | | | | | | | | | | | | | | | | Pro-13 to Leu-18, | Leu-37 to Arg-42, | Lys-65 to Gly-77. | | Val-40 to Tyr-46. |
| | | | | | | | | | | - | | | | • | | | | | | | 3388 | 3389 | 3390 | 3391 | | | 3392 | 3393 |
| | | | , | | | | | | | • | | | | | | | | | | | 3 - 62 | 77 - 142 | 112 - 270 | 49 - 315 | | | 244 - 405 | 1 - 138 |
| | | | | | | | | | | | | | | | | | | | | | 1213 | 1214 | 1215 | 1216 | | | 1217 | 1218 |
| | | | | | | | | | | | | | | | | | | | | | HHSFG15R | HHSGP15R | HHSGQ17R | HKBAD05R | | | HKZAD21R | HKZAE07R |
| | | | | | | | | | | | | | | | | | | | | | HHSFG15 | HHSGP15 | HHSGQ17 | HKBAD05 | | | HKZAD21 | HKZAE07 |

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|---------------------|---------------------|----------------------|---|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| .0596: 9, L0659: 8, | .0750: 5, L0521: 4, | .0740: 4, L.0757: 4, | .0771: 3, L0775: 3, 0809: 3, 1,0666: 3 | 0664: 3, H0648: 3, | .0755: 3, L0758: 3, | .0591: 3, L0785: 2, | .0717: 2, H0036: 2, | H0052: 2, H0529: 2, | .0769: 2, L0637: 2, | .0646: 2, L0765: 2, | .0651: 2, L0653: 2, | .0776: 2, L0655: 2, | .0663: 2, H0682: 2, | .0748: 2, L0439: 2, | .0731: 2, L0759: 2, | .0593: 2, L0595: 2, | .0601: 2, H0686: 1, | 134: 1, L0778: 1, | H0484: 1, H0661: 1, | H0662: 1, H0393: 1, | H0643: 1, H0002: 1, | H0599: 1, H0318: 1 | S0049: 1, H0251: 1, | .0040: 1, H0545: 1, | .0041: 1, N0006: 1, | N0007: 1, S0388: 1, | .0483: 1, H0606: 1, |
| 999 | <u> </u> | <u>a:</u> | | 13 | <u>2</u> | 10 | <u>1</u> | OH HO | <u>3</u> | <u>2</u> | <u>21</u> | <u>3</u> | <u> </u> | <u>21</u> | <u> </u> | 2 | <u> </u> | SO | <u>H</u> | OH H | OH | OH | <u>S</u> | <u>3</u> | <u>3</u> | SN N | 2 |
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| H0038: 1, H0040: 1, H0551: 1, H0413: 1, H0059: 1, H0560: 1, H0538: 1, S0002: 1, L0763: 1, L0772: 1, L0364: 1, L0649: 1, L0542: 1, L0526: 1, L0542: 1, L0526: 1, L0783: 1, L0528: 1, L0788: 1, L0528: 1, H0689: 1, H0658: 1, H0689: 1, H0658: 1, H0660: 1, S0328: 1, L0602: 1, S0004: 1, S0044: 1, S0404: 1, H0555: 1, H0436: 1, L0751: 1, L0742: 1, L0751: 1, L0747: 1, L0751: 1, L0742: 1, H0543: 1, H0422: 1 and H0543: 1, H0422: 1 and | | - |
|---|--|--|
| ь | Gly-1 to Val-7, Lys-15 to Leu-25, Pro-52 to Cys-57 | Lys-47 to Glu-52, Ala-71 to Asp-76, Asp-89 to Ser-110. |
| | 3394 | 3395 |
| | 79 - 327 | 3 - 368 |
| , | 1219 | 1220 |
| · | HKZAG45 HKZAG45RA | HKZAI14R |
| | HKZAG45 | HKZAI14 |

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| S0474: 22, S0360: 13, | H0556: 11, S0358: 11, | .0747: 11, H0087: 10, | S0126: 10, H0124: 9, | S0410: 8, S0278: 8, | H0024: 8, L0588: 8, | S0206: 7, S0046: 6, | .0731: 6, H0543: 6, | H0265: 5, S0212: 5, | S0045: 5, H0620: 5, | H0594: 5, H0090: 5, | H0063: 5, H0551: 5, | F0042: 5, L0530: 5, | H0144: 5, H0696: 5, | S3014: 5, L0758: 5, | S0192: 5, S0116: 4, | H0549: 4, H0013: 4, | H0530: 4, H0544: 4, | H0081: 4, L0471: 4, | H0012: 4, H0644: 4, | H0163: 4, H0412: 4, | H0100: 4, L0769: 4, | .0771: 4, S0027: 4, | .0740: 4, L0757: 4, | .0605: 4, H0423: 4, | H0624: 3, H0713: 3, | S0418: 3, S0444: 3, | S0408: 3, H0251: 3, | H0545: 3, S0051: 3, | H0083: 3, H0290: 3, |
| | H0556: | L0747: | S0126: | S0410: | H0024: | \$0206: | L0731: | H0265: | S0045: | H0594: | H0063: | T0042: | H0144: | S3014: | S0192: | H0549: | H0530: | H0081: | H0012: | H0163: | H0100: | L0771: | 1.0740: | 10605: | H0624: | S0418: | S0408: | H0545: | H0083: |
| 3396 Ser-9 to Ala-15. | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3396 | | | | | | • | | | | | | | | | | | | | | | | | | | | - | | | |
| 2-79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1221 | | | | | | | | | | | | | | | | | | | | | | | | | | • | | | |
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| HKZAI68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| T0041: 3, S0344: 3, | L0662: 3, L0768: 3, | L0806: 3, L0659: 3, | L0608: 3, S0194: 3, | H0352: 3, S0040: 2, | H0717: 2, H0716: 2, | S0134: 2, H0341: 2, | H0402: 2, H0305: 2, | S0356: 2, H0580: 2, | S0476: 2, H0411: 2, | H0392: 2, H0586: 2, | H0575: 2, H0052: 2, | H0327: 2, H0546: 2, | H0373: 2, L0163: 2, | H0687: 2, H0284: 2, | H0286: 2, H0428: 2, | H0039: 2, H0628: 2, | H0413: 2, H0056: 2, | S0440: 2, L0598: 2, | L0770: 2, L0521: 2, | L0776: 2, L0542: 2, | L0783: 2, L0529: 2, | L0663: 2, H0519: 2, | H0659: 2, S0378: 2, | H0518: 2, S0044: 2, | H0555: 2, H0627: 2, | S0028: 2, L0748: 2, | L0756: 2, L0755: 2, | S0031: 2, H0445: 2, | L0596: 2, L0591: 2, |
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| L0361: 2, S0026: 2, H0506: 2, H0171: 1 | H0157: 1, S0342: 1, | T0049: 1, H0656: 1, | 0282: 1, H0484: 1 0265: 1, T0662: 1 | HUZ33: 1, HU663: 1, | 0420: 1, SQ3/6: 1 | 0717: 1, \$6022: 1 | 0441: J, H0370: 1 | 0592: 1, H0333: 1 | H0492: 1, L0623: 1, | 0039: 1, T0114: 1 | H0635: 1, H0427: 1 | S0280: 1, H0156: 1, | 0021: 1, H0706: 1 | HO581: 1 | S0049: 1, H0196: 1 | H0085: 1, H0235: 1, | 0115: 1, H0046: 1 | 0086: 1, H0041: 1 | H0123: 1, H0015: 1, | .0051: 1, N0007: 1 | 0408: 1, H0375: 1 | 0266: 1, H0271: 1 | H0416: 1, H0292: | S0003: 1, H0622: 1 | .0483: 1, H0553: 1 | 0617: 1, H0032: | H0673: 1, H0674: 1, | H0135: 1, H0616: 1, |
| | Ħ | <u>E</u> | <u> </u> | Ξò | <u> </u> | <u> </u> | Ξ. | <u>Ħ</u> | H | <u>E</u> | 耳 | <u>S</u> | 3 | 耳 | S | Ħ | Ĕ | Ī | <u>H</u> | H | 耳 | 正 | Ī | <u>X</u> | ă | 正 | H | H |
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| 38: 1, | 50: 1, | 4:1, |)2: 1, | 95: 1, | 72: 1, | 54: 1, | 50: 1, | 75: 1, | 57: 1, | 26: 1, | 82: 1, | 19: 1, | 93: 1, | 02: 1, | 47: 1, | 82: 1, | 72: 1, | 28: 1, | 39: 1, | 21: 1, | 04: 1, | 36: 1, | 90: 1, | 32: 1, | 39: 1, | 50: 1, | 59: 1, | 95: 1, | 04: 1, |
|------------------|------------------|------------------|------------------|------------------|---------------|------------------|------------------|---------------|------------------|------------------|--------------------|---------------|--------------------|---------------|---------------|------------------|------------------|------------------|------------------|--------------------|---------------|---------------------|------------------|------------------|---------------|--------------------|------------------|------------------|------------------|
| H0623: 1, S0438: | H0132: 1, S0150: | H0633: 1, S0144: | S0210: 1, S0002: | S0426: 1, H0695: | L0763: 1, L07 | L0643: 1, L0764: | L0766: 1, L0650: | L0774: 1, L07 | L0654: 1, L0657: | L0540: 1, L0526: | L0518: 1, L0782: 1 | L0384: 1, L05 | L0544: 1, L0793: 1 | L0666: 1, H07 | H0701: 1, H05 | H0689: 1, H0682: | H0660: 1, H0672: | H0651: 1, S0328: | S0330: 1, H0539: | S0380: 1, H0521: 1 | H0522: 1, S00 | H0134: 1, H0436: 1, | S0392: 1, S0390: | S0037: 1, S0032: | L0743: 1, L04 | L0754: 1, L0750: 1 | L0779: 1, L0759: | S0260: 1, H0595: | H0707: 1, L0604: |
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| H0668: 1 H0653: 1 | H0542: 1, H0422: 1, | S0042: 1, S0456: 1 and | S0446: 1. | | | | | | | | | | | | | - | - | L0743: 19, L0731: 13, | L0744: 12, L0748: 11, | L0666: 9, L0751: 9, | L0664: 8, H0144: 8, | H0333: 7, H0617: 7, | L0769: 7, L0662: 7, | S0022: 6, H0616: 6, | H0087: 6, L0483: 5, | H0181: 5, L0517: 5, | L0519: 5, L0754: 5, | H0677: 5, S0051: 4, | S0344: 4, L0663: 4, |
| | | | | Ser-1 to Lys-6, | Asp-48 to Gly-55, | Pro-68 to Phe-76, | Pro-83 to Gly-89, | Asn-100 to Asp- | 108, | Glu-134 to Lys-141, | Lys-144 to Asp-160. | Met-41 to Gln-47. | Gln-54 to Leu-59, | Glu-70 to Lys-76, | Lys-147 to Ser-154. | Asp-1 to His-35, | Pro-67 to His-75. | Ser-11 to Gly-18. | | | | | | | | | | | |
| | | | | 3397 | | | | | | | | 3398 | 3399 | | | 3400 | | 3401 | | | | | | | | | | | |
| | | | | 1 - 480 | | | • | | | | | 3 - 266 | 1 - 462 | | | 1 - 276 | • | 2 - 103 | | | - | | | | - | | | , | |
| | | | | 1222 | | | | | | | | 1223 | 1224 | | | 1225 | | 1226 | | | | | | | | | | , | |
| | | | | HKZAQ39R | | | | | | | | HKZAR58R | HKZAS59R | | | HKZAS64R | | HKZAS84R | | | | | | | | | | | |
| | | | | HKZAQ39 | | | | | | | | HKZAR58 | HKZAS59 | | | HKZAS64 | | HKZAS84 | | | | | | | | | | | |

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| H0658: 4, L0747: 4, | L0750: 4, L0757: 4, | H0295: 3, T0049: 3, | H0255: 3, L0622: 3, | T0039: 3, H0253: 3, | H0545: 3, L0163: 3, | H0594: 3, H0188: 3, | H0673: 3, H0100: 3, | S0142: 3, L0372: 3, | L0775: 3, L0776: 3, | L0657: 3, L0382: 3, | L0665: 3, H0672: 3, | S0027: 3, L0742: 3, | L0752: 3, S0260: 3, | H0445: 3, L0596: 3, | L0588: 3, L0599: 3, | S0420: 2, H0637: 2, | S0045: 2, S0132: 2, | S0300: 2, S0278: 2, | S0222: 2, H0431: 2, | H0392: 2, H0599: 2, | H0575:'2, H0052: 2, | H0309: 2, H0085: 2, | H0597: 2, H0544: 2, | H0428: 2, H0124: 2, | S0036: 2, H0163: 2, | H0038: 2, H0413: 2, | H0529: 2, L0369: 2, | L0763: 2, L0770: 2, | L0638: 2, L0764: 2, |
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| .0771: 2, L0803: 2, | 0804: 2, L0375: 2 | L0655: 2, L0384: 2, | 0809: 2, L0532: 2 | 0374: 2, S0126: 2 | H0670: 2, H0651: 2, | H0521: 2, S0028: 2, | 0740: 2, L0485: 2 | 0362: 2, L0601: 2 | 0192: 2, S0424: 2 | L0600: 2, H0556: 1, | 0002: 1, H0686: 1 | 0040: 1, S0342: 1 | 0294: 1, S0114: 1 | S0134: 1, H0650: 1 | 0657: 1, L0785: 1 | H0341: 1, S0180: 1 | S0212: 1, H0484: 1 | H0483: 1, H0254: | H0671: 1, H0662:] | H0402: 1, H0638: 1, | 0418: 1, S0356: 1 | 0007: 1, S0358: 1 | 0007: 1, H0208: 1 | H0441: 1, H0438: | 0587: 1, S0005: 1 | L0623: 1, L0477: 1 | F0114: 1, S0280: 1 | J0021: 1, H0590: 1 | H0004: 1, H0618: 1 |
| 1 | <u> </u> | 7 | 크 | <u>S</u> | H | <u>H</u> | 5 | 7 | <u> </u> | <u>J</u> | Ā | <u>S</u> | H | <u>S</u> | H | 耳 | <u>x</u> | H | H | <u> </u> | <u> </u> | Ĺ | <u>S</u> | <u> </u> | Ħ. | <u> P</u> | Ĺ | 7 | I |
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| S0010: 1, H0318: 1, | S0049: 1, H0251: 1, | H0596: 1, T0110: 1, | H0327: 1, H0009: 1, | H0123: 1, L0471: 1, | H0006: 1, H0014: 1, | H0051: 1, S0388: 1, | H0510: 1, S0334: 1, | H0687: 1, T0023: 1, | T0006: 1, H0424: 1, | H0182: 1, H0606: 1, | H0383: 1, H0165: 1, | H0166: 1, S0366: 1, | H0135: 1, H0090: 1, | T0067: 1, H0488: 1, | H0412: 1, T0069: 1, | S0112: 1, L0564: 1, | H0494: 1, S0015: 1, | H0561: 1, L0762: 1, | L0640: 1, L0637: 1, | L0761: 1, L0667: 1, | L0772: 1, L0373: 1, | L0646: 1, L0643: 1, | L0374: 1, L0765: 1, | L0773: 1, L0648: 1, | L0521: 1, L0768: 1, | L0364: 1, L0533: 1, | L0650: 1, L0774: 1, | L0376: 1, L0806: 1, | L0652: 1, L0653: 1, |
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| L0606: 1, L0629: 1, L0659: 1, L0636: 1, L0542: 1, L0526: 1, L0518: 1, L0782: 1, L0783: 1, H0689: 1, H0690: 1, H0689: 1, H0660: 1, S0328: 1, S0330: 1, S0328: 1, H0552: 1, L0611: 1, S3014: 1, S0206: 1, L0755: 1, L0611: 1, L0755: 1, L0608: 1, L0591: 1, L0608: 1, L0591: 1, L0608: 1, L0591: 1, L0608: 1, L0565: 1, S0242: 1, R0665: 1, S0242: 1, S0194: 1, H0543: 1, S0456: 1 and H0506: 1. | | | L0771: 3, L0021: 1, S0036: 1, H0689: 1 and |
|--|--|---------------------------------------|---|
| SHESHESSERSESSESSESSESSESSESSESSESSESSESSESSE | Val-6 to Lys-13, Tyr-23 to Asn-33, Lys-46 to Lys-51, Leu-75 to Asn-85, Asp-101 to Glu-106. | Cys-1 to Val-33, Ala-47 to Glu-54. | V |
| | 3402 | 3403 | 3404 |
| , | 2 - 412 | 2 - 163 | 137 - 361 |
| | 1227 | 1228 | 1229 |
| | HKZAV69R | HKZAV72R | HKZAX48R |
| | HKZAV69 | HKZAV72 | HKZAX48 |

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| H0659: 1. | | | | | | | | | | | | | | | | | | L0766: 5, L0751: 4, | H0662: 2, H0253: 2, | L0754: 2, L0750: 2, | H0170: 1, H0587: 1, | H0327: 1, H0688: 1, |
| | Arg-32 to Leu-11, Arg-32 to Lys-39, Thr-117 to Lys-122. | Gln-41 to His-48, Leu-55 to Gly-61, Pro-71 to Gly-79, Ala-104 to His-111. | | Ala-2 to Lys-12. | | Pro-77 to Lys-85. | Pro-82 to Lys-92. | | Gln-20 to Ser-30. | Phe-45 to Ser-51. | | | Lys-17 to Thr-23. | Met-40 to Thr-52. | | Lys-18 to Lys-30. | Lys-18 to Lys-30. | Pro-37 to Arg-46, | Gln-75 to Gly-81, | Pro-83 to Ser-89. | | |
| | 3405 | 3406 | 3407 | 3408 | 3410 | 3411 | 3412 | 3413 | 3414 | 3415 | 3416 | 3417 | 3418 | 3419 | 3420 | 3421 | 3422 | 3423 | | | | |
| | 2 - 520 | 1 - 381 | 2-112 | 2 - 190 | 430 - 648 | 1 | 118 - 411 | 331 - 585 | 2 - 337 | 57 - 275 | 2 - 238 | 131 - 199 | <i>61 - 225</i> | 3 - 161 | 324 - 145 | 136 - 276 | 2 - 196 | 127 - 474 | | | | |
| | 1230 | 1231 | 1232 | 1233 | 1234 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241 | 1242 | 1243 | 1244 | 1245 | 1246 | 1247 | 1248 | | | | |
| | HKZBB22R | HKZBS89R | HLDQQ80R | HLDXE19R | HLIBI32R | HLJBI37R | HLTHA47R | HLTJA50R | HLWAC95 HLWAC95R | HLWDZ38 HLWDZ38R | HLYDI57R | HMCF019R | HMCIZ44R | HMCJE25R | HMSPB25R | HMVBB04 HMVBB04R | HNAAE01R | HNBUP08R | | | | |
| | HKZBB22 | HKZBS89 | HLDQQ80 | HLDXE19 | HLICUSS HLIBI32 | HLJBI37 | HLTHA47 | HLTJA50 | HLWAC95 | HLWDZ38 | HLYDIS7 | HMCF019 | HMCIZ44 | HMCJE25 | HMSPB25 | HMVBB04 | HNAAE01 | HNBUP08 | | | | |

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| H0428: 1, S0210: 1, L0763: 1, L0770: 1, L0769: 1, L0646: 1, L0662: 1, L0653: 1, L0776: 1, L0655: 1, L0789: 1, L0666: 1, L0789: 1, L0666: 1, L0663: 1, L0666: 1, H0660: 1, S0380: 1, H0660: 1, S0380: 1, L0740: 1, L0755: 1, L0758: 1, L0589: 1, L0758: 1, L0589: 1, | L0783: 4, \$0280: 2, H0662: 1, H0550: 1, L0764: 1, L0662: 1, L0809: 1 and H0684: 1. | | | | | | | | | | | |
| | | | Glu-18 to Asp-35, Leu-52 to Gly-82. | | | | | | | | Thr-1 to Ser-8, | Pro-22 to Ser-27. |
| | 3424 | 3425 | 3426 | 3427 | 3428 | 3429 | 3430 | 3431 | 3432 | 3433 | 3434 | |
| | 2 - 289 | 179 - 541 | 1 - 279 | 2 - 454 | 1 - 351 | 33 - 425 | 397 - 621 | 116 - 232 | 3 - 551 | 112 - 219 | 1 - 138 | |
| | 1249 | 1250 | 1251 | 1252 | 1253 | 1254 | 1255 | 1256 | 1257 | 1258 | 1259 | |
| | HNBUY37R | HNBVL57R | HNHBC18R | HNJFE85R | HNKCO29R | HNOAA22 HNOAA22R | HNOAB27 HNOAB27R | HNOAB28 HNOAB28R | HNOAB88R | HNOAC04 HNOAC04R | HNOACIS HNOACISR | |
| | HNBUY37 | HNBVL.57 | HNHBC18 | HNJFE85 | HNKC029 | HNOAA22 | HNOAB27 | HNOAB28 | HNOAB88 | HNOAC04 | HNOAC15 | |

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| | | | | | | | | | | | | | | | | | | | *** | | | | H0651: 2 | | | - | | H0134: 9, L0771: 8, |
| 3435 Thr-5 to Thr-14, | Arg-20 to His-25, | Arg-35 to Gly-40, | Lys-58 to Arg-66, | His-101 to Ser-107, | Arg-111 to Lys-125, | Leu-131 to Glu-140. | Pro-13 to Arg-21, | Ser-42 to Phe-52, | Lys-69 to Val-77, | Ile-82 to Glu-87, | Gly-93 to Gln-99, | Val-118 to Asn-124, | Lys-143 to Leu-152, | Arg-154 to Glu-178. | Thr-5 to Thr-14, | Arg-20 to His-25, | Arg-35 to Gly-40, | Lys-58 to Arg-66, | His-101 to Ser-107, | Arg-111 to Lys-125, | Leu-131 to Arg-139, | Arg-145 to Leu-153. | | | | | Cys-2 to Gly-7. | Trp-6 to Glu-12. H |
| 3435 | | • | | | | | 3436 | | | | | | | | 3437 | | | | | | | | 3438 | 3439 | 3440 | 3441 | 3442 | 3443 |
| 89 - 577 | | • | | | ••• | | 2 - 535 | | | | | | | | 67 - 555 | - | | | | | | | 2 - 145 | 42 - 362 | 28 - 177 | 2 - 364 | 3 - 524. | 351 - 536 |
| 1260 | | | | | | | 1261 | | | | | | | | 1262 | | | | | | , | | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 |
| HNOAE50 HNOAE50R | | | | | | | HNOAE65R | | | | | | | | HNOAF22R | | | | | | | | HNOAF36R | HNOAG34 HNOAG34R | HNOAG94 HNOAG94R | HNOAH67R | HNOAJ67R | HNOAJ76R |
| HNOAE50 | | | | | | | HNOAE65 | | | | | | | | HNOAF22 | | | | \ | | | | HNOAF36 | HNOAG34 | HNOAG94 | HNOAH67 | HNOAJ67 | HNOAJ76 |

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| .0748: 7, L0731: 6, | 0591: 6, L0592: 6, | 0770: 5, L0747: 5, | 20/49: 5, LU/50: 5, H0136: 5, H0050: 4 | 4, H0529: 4, | L0769: 4, L0752: 4, | 4, S0007: 3, | S0045: 3, H0591: 3, | H0561: 3, L0761: 3, | .0645: 3, L0766: 3, | 3, L0657: 3, | .0666: 3, H0696: 3, | H0436: 3, L0754: 3, | .0756: 3, L0755: 3, | H0543: 3, H0686: 2, | 2, S0420: 2, | S0376: 2, H0351: 2, | 2, S0049: 2, | 2, L0163: 2, | H0428: 2, H0090: 2, | 2, T0041: 2, | H0494: 2, H0646: 2, | .0763: 2, L0521: 2, | .0776: 2, L0665: 2, | H0144: 2, L0751: 2, | .0745: 2, S0031: 2, | | H0170: 1, H0171: 1, | H0394: 1, S0114: 1, |
| L0748: | L0591: (| L0770: 3 | L0/49: | H0625: | T0769: 4 | L0758: 4 | S0045: 3 | H0561: | L0645: 3 | L0655: 3 | T0666: 3 | H0436: | L0756: 3 | H0543: | H0125: 2 | S0376: 2 | H0581: 2 | H0052: 2 | H0428: 2 | H0040: 2 | H0494: 2 | L0763: 2 | L0776: 2 | H0144: 2 | L0745: 2 | L0581: 2 | H0170: | H0394: |
| | · · | - | : | | | | | | | | | | | | | | | | | | | | | | | | | |
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| S0218: 1, H0656: 1, | S0444: 1, S0360: 1, | 637: 1, H0580: 1, | 619: 1, H0393: 1, | 717: 1, H0497: 1, | 486: 1, T0039: 1, | T0114: 1, H0013: 1, | 244: 1, H0635: 1, | H0427: 1, H0318: 1, | 178: 1, L0157: 1, | H0081: 1, S0051: 1, | H0292: 1, S0003: 1, | .0483: 1, H0316: 1, | 135: 1, H0634: 1, | H0551: 1, H0560: 1, | 30440: 1, H0538: 1, | .0640: 1, L0796: 1, | .0667: 1, L0772: 1, | .0373: 1, L0764: 1, | .0662: 1, L0363: 1, | .0768: 1, L0649: 1, | .0388: 1, L0650: 1, | L0774: 1, L0775: 1, | 375: 1, L0524: 1, | .0653: 1, L0659: 1, | L0663: 1, L0664: 1, | 053: 1, H0520: 1, | S0126: 1, H0435: 1, | H0660: 1, H0672: 1, | H0651: 1, H0521: 1, |
| OS | <u>ÖS</u> | OH. | <u>H</u> | <u>9</u> | OH H | 770 | OH. | OH | OH OH | OH) | OH OH | <u>3</u> | OH | OH. | SO SO | <u> </u> | 2 | <u>21</u> | <u>n</u> | <u>2</u> | | <u>21</u> | <u>P</u> | <u>1</u> | <u> </u> | 80 | <u>80</u> | OH H | HO |
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| H0704: 1, S0044: 1, H0187: 1, S0028: 1, L0740: 1, L0779: 1, L0777: 1, L0753: 1, L0759: 1, L0596: 1, L0597: 1, L0595: 1, S0026: 1, H0217: 1 and S0384: 1. | | | | | | | | | | | | | 1.0666·10 H0510·8 | H0046: 6. H0617: 6. | S0051: 4, H0135: 4, | L0776: 4, L0439: 4, | H0509: 3, L0665: 3, | L0747: 3, H0445: 3, | H0662: 2, S0420: 2, | S0222: 2, H0574: 2, | H0632: 2, H0427: 2, |
| | | | | Phe-74 to Pro-81. | Gly-1 to Leu-6, | Pro-47 to Asp-52, | Lys-63 to Glu-68. | Arg-9 to Arg-27, | Gly-43 to Lys-48, | Asp-61 to Ser-67, | Ala-124 to Gly-130, | Thr-146 to Lys-151, | 1 IIC-103 to Lys-1/0. | | | | | | | | |
| | 3444 | 3445 | 3446 | 3447 | 3448 | | | 3449 | | | | | 3450 |) | | | | | | | |
| · | 2 - 157 | 43 - 207 | 1 - 180 | 403 - 759 | 2 - 283 | *** | | 2 - 730 | | | | | 2-664 | | | | | | | | |
| | 1269 | 1270 | | 1272 | 1273 | | | 1274 | | | | | 1275 | | | | | | | | |
| | HNOAK11R | HNOAL51R | HNOAN85 HNOAN85R | HNOA059R | HNOA071 HNOA071R | | | HNOAP21R | | | | | HNOA024R | *************************************** | | | | | | | |
| | HNOAK11 | HNOAL51 | HNOAN85 | HNOAO59 | HNOA071 | | | HNOAP21 | | | | | HNOA024 | 2 | | | | | | | |

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| H0618: 2, | 10052: 2, | H0123: 2, | 10428: 2, | .0662: 2, | .0657: 2, | ,0664: 2, | 10651: 2, | .0592: 2, | ,0601: 2, | 0212: 1, | 10255: 1, | 0354: 1, | 6022: 1, | 10357: 1, | 10592: 1, | ለ0009: 1, | 0280: 1, | 10042: 1, | 10327: 1, | I0178: 1, | 10246: 1, | 10071: 1, | 6028: 1, | 70023: 1, | 10124: 1, | 10264: 1, | 10633: 1, | 0142: 1, | 0371: 1, |
| H0575: 2, H0618: 2, | H0253: 2, I | H0545: 2, H0123: 2, | H0687: 2, H0428: 2, | H0100: 2, L0662: 2, | 1,0806: 2, 1 | L0659: 2, L0664: 2, | H0691: 2, H0651: 2, | L0744: 2, L0592: 2, | L0599: 2, L | S0040: 1, S | H0483: 1, F | H0663: 1, S | H0208: 1, S6022: 1, | H0441: 1, F | H0455: 1, F | H0331: 1, N | H0013: 1, S0280: 1, | H0349: 1, F | S0049: 1, H0327: | H0544: 1, H0178: 1, | H0012: 1, F | H0024: 1, F | . H0107: 1, S | H0266: 1, T0023: | T0006: 1, H0124: | S0036: 1, H0264: | H0059: 1, H0633: | H0647: 1, S0142: | L0369: 1, L0371 |
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| L0770: 1, L0769: 1, L0645: 1, L0764: 1, L0768: 1, L0775: 1, L0651: 1, L0525: 1, L0378: 1, L0653: 1, L0789: 1, L0792: 1, H0520: 1, S0126: 1, H0659: 1, H0658: 1, H0672: 1, H0658: 1, H0672: 1, S0044: 1, S0028: 1, L0743: 1, L0748: 1, S0031: 1, L0748: 1, H0653: 1, H0665: 1, H0653: 1, | L0794: 3, H0657: 2, L0766: 2, L0773: 2, L0789: 2, L0777: 2, L0759: 2, H0656: 1, S0116: 1, S044: 1, S0360: 1, H0431: 1, S0010: 1, H0052: 1, H0596: 1, H0687: 1, |
| | Ser-15 to Glu-23, Val-33 to Gly-40, Arg-47 to Pro-59, Ser-64 to Phe-70, Gly-92 to Lys-97, Lys-155 to Glu-166. Pro-5 to Gly-11, Ser-20 to Ser-27. |
| | 3451 |
| · | 1 - 642 |
| · | 1276 |
| · | HNOAQ47R HNOAR74R |
| · | HNOAQ47 |

| H0634: 1, L0637: 1, L0648: 1, L0649: 1, L0804: 1, L0774: 1, L0776: 1, L0655: 1, L0606: 1, L0809: 1, H0144: 1, H0698: 1, L0438: 1, H0690: 1, H0660: 1, H0651: 1, L0747: 1, L0749: 1, L0758: 1, L0601: 1, S0242: 1, S0196: 1 and H0543: 1. | L0758: 6, H0031: 4, H0341: 3, S0022: 3, S0376: 2, H0586: 2, H0156: 2, H0575: 2, L0769: 2, L0809: 2, H0522: 2, S0027: 2, H0445: 2, S0412: 2, H0656: 1, S0358: 1, S0360: 1, H0574: 1, H0486: 1, H0013: 1, H0318: 1, H0013: 1, H0083: 1, S0003: 1, S0214: 1, H0049: 1, H0673: 1, H0412: 1, H0673: 1, H0591: 1, |
|---|---|
| | Ser-48 to Leu-56, Ser-70 to Val-75, Thr-83 to Ala-92. |
| | 3453 |
| | 278 - 562 |
| | 1278 |
| · | HNOAR85R |
| | HNOAR85 |

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|---|--|---|---|
| L0372: 1, L0764: 1, L0794: 1, L0649: 1, L0774: 1, L0775: 1, L0651: 1, L0807: 1, L0657: 1, L0789: 1, L0663: 1, H0519: 1, S0126: 1, H0684: 1, H0660: 1, H0666: 1, H0651: 1, S0028: 1, L0747: 1, L0777: 1, L0731: 1, S0194: 1, | | | H0457: 4, H0441: 3, H0393: 2, H0052: 2, H0620: 2, S0144: 2, H0521: 2, H0341: 1, S0358: 1, H0587: 1, H0632: 1, H0581: 1, H0309: 1, L0471: 1, H0622: 1, H0424: 1, H0213: 1, S0366: 1, H0163: 1, H0132: 1, S0142: 1, H0529: 1, |
| | Asn-80 to Gly-86, Glu-133 to Arg-138. | Leu-1 to Thr-7, Pro-39 to Ser-48, Trp-62 to Thr-68. | 4. |
| | 3454 | 3455 | 3456 |
| | 84 - 521 | 3 - 254 | 2 - 385 |
| | 1279 | 1280 | 1281 |
| | HNOAS07R | HNOAS36R | HNOAS92R |
| | HNOAS07 | HNOAS36 | HNOAS92 |

| S3014: 1, L0748: 1, | L0777: 1 and L0599: 1. | L0794: 5, H0052: 4, | H0457: 4, L0438: 4, | H0651: 4, H0581: 3, | .0777: 3, S0116: 2, | 80007: 2, 80222: 2, | 0049: 2, N0006: 2, | L0163: 2, S6028: 2, | .0351: 2, H0130: 2, | .0638: 2, L0803: 2, | .0805: 2, L0439: 2, | ,0754: 2, L0750: 2, | .0755: 2, H0580: 1, | H0645: 1, H0486: 1, | 10013: 1, S0346: 1, | H0009: 1, L0157: 1, | H0567: 1, H0562: 1, | 10050: 1, T0010: 1, | H0606: 1, H0040: 1, | H0063: 1, S0210: 1, | .0761: 1, L0667: 1, | .0774: 1, L0526: 1, | .0532: 1, L0666: 1, | .0665: 1, H0658: 1, | H0521: 1, H0576: 1, | .0753: 1, L0758: 1, | .0759: 1, L0593: 1, | .0366: 1, H0543: 1 and | S0462: 1. |
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| S | | | | <u> </u> | | S | S | | | | | <u> </u> | | | Ξ. | <u> </u> | <u>年</u> | 正. | <u>E</u> | <u>.</u> E. | | | ᆸ | <u></u> | <u> </u> | | | | S |
| | | 3457 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 96 - 317 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 1282 | | | | | | | • | | | | | | | | | | | | | | | | | • | | | |
| | | HNOAT40 HNOAT40R | | | | | | | | | | | | | | | | • | | | | | | | | : | | | |
| | | HNOAT40 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | | | | | | | L0747: 16, H0651: 10, | H0561: 9, L0758: 8, | H0046: 7, L0663: 7, | S0026: 7, H0656: 6, | H0393: 6, H0494: 6, | L0774: 6, L0659: 6, | L0665: 6, L0750: 6, | L0731: 6, L0596: 6, | H0543: 6, H0341: 5, | H0575: 5, H0529: 5, | L0662: 5, L0655: 5, | H0539: 5, L0439: 5, | L0752: 5, S0114: 4, | H0657: 4, H0351: 4, | H0581: 4, H0551: 4, | H0560: 4, S0372: 4, | L0769: 4, L0764: 4, | L0776: 4, H0144: 4, | H0660: 4, H0648: 4, | H0672: 4, S0028: 4, | L0749: 4, L0362: 4, | H0580: 3, H0497: 3, | H0486: 3, H0318: 3, |
| | Lys-28 to Tyr-49, | Arg-75 to Ala-83, | Thr-90 to Ala-95, | Arg-107 to Asp-114, | Arg-137 to Ser-146. | | Arg-1 to Gly-6, | Lys-21 to Gly-29, | Gln-51 to Gly-56, | Pro-82 to Asp-90, | Lys-175 to Ser-180. | | | | | | | | | | | | | | | | | | |
| 3458 | 3459 | | | | | 3460 | 3461 | | | | | | | | | | | | | | | | | | | | | | |
| 2 - 187 | 2 - 439 | | | | | 98 - 316 | 2 - 607 | | | | | • | | | | | | | | | • | | | _ | | | | | |
| 1283 | 1284 | | | | . | 1285 | 1286 | | | | | • | | | - | | | | | | | | | | | | | _,, | |
| HNOAT76R | HNOAV91 HNOAV91R | | | | | HNOBD17R | HNOBE83R | | | | | | | | | | | | | | | | | | | | | | |
| HNOAT76 | HNOAV91 | | | | | HNOBD17 | HNOBE83 | | | | | | | | | | | | | | | | | _ | | | | | |

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| H0014: 3, H0373: 3 | H0553: 3, H0038: 3 | 70041: 3, S0002: 3, | L0761: 3, L0664: 3, | 0126: 3, H0658: 3, | H0666: 3, S0380: 3, | S0152: 3, H0521: 3, | H0707: 3, L0589: 3, | .0605: 3, L0599: 3, | .0593: 3, H0423: 3, | 10265: 2, H0661: 2, | S0356: 2, S0358: 2, | S0360: 2, S0408: 2, | 50410: 2, S0046: 2, | H0409: 2, S0280: 2, | 10251: 2, L0738: 2, | L0471: 2, H0057: 2, | J0185: 2, H0594: 2, | H0188: 2, S0003: 2, | H0090: 2, H0412: 2, | H0413: 2, S0440: 2, | S0150: 2, S0144: 2, | H0538: 2, L0763: 2, | J0627: 2, L0775: 2, | .0653: 2, H0519: 2, | 10435: 2, H0659: 2, | HO436: 2, H0478: 2, | S0027: 2, L0756: 2, | .0755: 2, L0759: 2, | H0445: 2, L0588: 2, |
| | <u> </u> | H | <u></u> | S | <u>æ</u> | S | <u> </u> | <u> </u> | 7 | <u>.E.</u> | <u>S</u> | S | <u>.</u> | <u> </u> | <u> </u> | 7 | <u>7</u> | <u>E</u> | H | <u> </u> | S | <u> </u> | <u>,,</u> | <u>1</u> | <u> </u> | <u> </u> | <u> </u> | <u></u> | H |
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| 12: 2, | 71: 1, | 6: 1, | 2: 1, | 5: 1, | 71: 1, | 49: 1, | 25: 1, | 4: 1, | 5: 1, | 70: 1, | 2: 1, | 0: 1, | 35: 1, | 56: 1, | 0: 1, | 0: 1, | 16: 1, | 33: 1, | 0: 1, | 57: 1, | 52: 1, | 39: 1, | 31: 1, | 58: 1, | 10: 1, | 57: 1, | 7.1, | 5: 1, | 11: 1, |
| L0590: 2, H0542: 2 | H0422: 2, H0171: | L0448: 1, H0556: | H0222: 1, S034 | H0650: 1, S003 | H0483: 1, H06 | H0662: 1, H0449: 1 | H0459: 1, H012 | S0420: 1, S0354: 1 | S0444: 1, S004 | H0443: 1, H0370: | H0392: 1, L0622: 1, | L0623: 1, T004 | H0013: 1, H06 | H0427: 1, H01: | H0590: 1, S001 | H0052: 1, T0110: 1, | H0597: 1, H05 | H0009: 1, H0093: | S0051: 1, T0010: | H0510: 1, H026 | H0687: 1, H0252: | H0428: 1, H0039: | H0622: 1, H018 | H0032: 1, H0068: | H0598: 1, H0040: | H0087: 1, T0067: 1 | H0488: 1, L056 | T0042: 1, H0625: | H0130: 1, H0641: 1 |
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| H0633: 1, S0208: 1, | S0422: 1, S0426: 1, | .0520: 1, L0762: 1, | .0770: 1, L0796: 1, | .0630: 1, L.0646: 1, | .0381: 1, L0388: 1, | .0804: 1, L0650: 1, | L0375: 1, L0651: 1, | .0784: 1, L0656: 1, | .0518: 1, L0519: 1, | .0530: 1, L0368: 1, | 0053: 1, S0374: 1, | 10547: 1, H0689: 1, | I0682: 1, H0684: 1, | H0670: 1, H0518: 1, | :0013: 1, H0704: 1, | S0044: 1, H0214: 1, | .0404: 1, S0406: 1, | H0555: 1, H0576: 1, | 0392: 1, L0751: 1, | S0031: 1, H0444: 1, | 0106: 1, S0011: 1, | 10667: 1, S0192: 1, | S0242: 1, S0276: 1, | .0697: 1 and L0360: 1. | | | - | |
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| | <u> </u> | _== | | <u> </u> | | <u> </u> | | <u> </u> | | | <u>03</u> | <u> </u> | | P-1-4 | <u> </u> | S | 03 | | <u> </u> | <u> </u> | <u>03</u> | <u> </u> | S | <u>. — </u> | Pro-14 to Gly-22, | Ile-31 to Ala-36, | Lys-53 to Ile-65. | Val-2 to Leu-20. |
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| | | | | | | | | | | | | | | | | | | | | | | | | | 1287 | | | 1288 |
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| | | H0556: 11, H0265: 9, | H0012: 4, H0616: 4, | 110393. 3, 110020. 3, | S0002: 3, H0651: 3, | L0596: 3, H0542: 3, | H0543: 3, S0418: 2, | S0045: 2, H0266: 2, | S0150: 2, H0521: 2, | L0591: 2, S0040: 1, | H0341: 1, H0663: 1, | S0354: 1, S0358: 1, | S0046: 1, S0222: 1, | H0586: 1, H0486: 1, | H0635: 1, H0618: 1, | H0581: 1, S0049: 1, | H0263: 1, T0103: 1, | T0110: 1, H0009: 1, | T0003: 1, H0373: 1, | 80051: 1, 80336: 1, | H0290: 1, H0286: 1, | H0328: 1, H0622: 1, | H0553: 1, H0124: 1, | H0090: 1, S0038: 1, | H0100: 1, T0042: 1, | S0015: 1, H0560: 1, | H0509: 1, H0130: 1, | L0654: 1, H0144: 1, |
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| 3464 | 3465 | 3466 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 - 193 | 1 - 624 | 1 - 453 | | | - | | | | | | | | | | | | | | | | | | | | | | | |
| 1289 | 1290 | 1291 | | | | | | - | | | | | | | | | | | | | | | | | | | | |
| HNOCL43 HNOCL43R | _ | _ | | | | | | | | | | | | | = | | | | | , | | | | | | | | |
| HNOCL43 | HNOCN02 | HNOCN10 | | | | | | | | | | | | | | | | | | | | | | | | | | |

| L0438: 1, H0547: 1, H0519: 1, H0593: 1, H0435: 1, L0602: 1, S0332: 1, H0522: 1, H0134: 1, S3014: 1, L0439: 1, H0445: 1, S0434: 1, L0485: 1, L0604: 1, L0593: 1, L0594: 1, L0601: 1, H0422: 1 and S0398: 1. | | | | | | | | | | | ! | S0358: 7, L0750: 7, | S0360: 6, H0617: 5, S0126: 4, H0545: 3, |
|---|--|---|-----------------|-----------|-------------------|-------------------|-----------|-------------------|-------------------|---------------------|---------------------|---------------------|--|
| 100 100 100 100 100 100 100 100 100 100 | Pro-1 to Lys-10, Phe-31 to Asn-37, Gln-42 to Leu-50, | Arg-58 to Gln-65, Leu-86 to Ala-91, Tvr-101 to Ala-111. | Glu-1 to Asp-6. | | Ser-47 to Ile-53. | Gly-35 to Glu-41. | | Gly-13 to Lys-20, | Ala-26 to Lys-32, | Gly-128 to Val-135, | Phe-142 to Asn-151. | - | S03 S01 |
| | 3467 | | 3468 | 3469 | 3470 | 3471 | 3472 | 3473 | | | | 3474 | |
| | 3-581 | | 1-258 | 204 - 407 | 63 - 320 | 269 - 583 | 480 - 707 | 1 - 453 | | | | 2 - 391 | |
| | 1292 | | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | | | | 1299 | |
| | HNOCR44R | | HNOCU03R | HNODD77R | HNODG11 HNODG11R | HNODM92R | HNODP28R | HNOJA93R | | | | HNOJB10R | |
| | HNOCR44 | | HINOCU03 | HNODD777 | HNODG11 | HNODM92 | HNODP28 | HNOJA93 | | | | HNOJB10 | |

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| .0776: 3, S0374: 3, | .0748: 3, L0755: 3, | .0588: 3, H0422: 3, | 10685: 2, H0549: 2, | 10550: 2, H0632: 2, | H0546: 2, H0424: 2, | 63: 2, H0551: 2, | .0665: 2, H0593: 2, | 60: 2, S0330: 2, | .0747: 2, L0749: 2, | L0777: 2, L0757: 2, | 31: 2, H0556: 1, | H0686: 1, H0295: 1, | S0430: 1, H0657: 1, | H0341: 1, H0662: 1, | S0278: 1, H0282: 1, | 10592: 1, H0586: 1, | 86: 1, T0039: 1, | T0109: 1, H0004: 1, | H0581: 1, H0309: 1, | 10596: 1, T0110: 1, | H0231: 1, H0123: 1, | 20: 1, H0083: 1, | H0594: 1, H0687: 1, | .0483: 1, H0644: 1, | H0361: 1, H0087: 1, | H0413: 1, H0059: 1, | H0494: 1, S0306: 1, | S0440: 1, H0509: 1, | H0529: 1, L0762: 1, |
| . IC07 | 1.07 | <u>1.05</u> | 90H | HOS | H05 | H0 101 | 90 <u>7</u> | 90H | 107 | 100 | 200 | 90H | S04 | H03 | S02' | HOS | H04 | 101 | HOS | H05 | H02 | 90H | H05 | 107 | H03 | H04 | H04 | S04 | H05 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0770: 1, L0769: 1, L0372: 1, L0764: 1, L0771: 1, L0773: 1, L0775: 1, L0375: 1, L0856: 1, L0655: 1, L0807: 1, L0656: 1, L0807: 1, L0656: 1, L0783: 1, L0384: 1, S0216: 1, H0144: 1, H0690: 1, H0690: 1, H0684: 1, H0679: 1, S0328: 1, S0378: 1, S0328: 1, S0378: 1, S0328: 1, L0741: 1, H0445: 1, L0741: 1, S0192: 1, S0194: 1, S0192: 1, S0194: 1, | | | · | | L0748: 17, L0749: 13, |
| · | Arg-8 to Gln-18, Thr-24 to Gly-35, Lys-53 to Gly-61, Pro-77 to Cys-82, Pro-103 to Gln-117. | | Leu-14 to Arg-20, Ser-29 to Ser-38, Pro-43 to Gly-52. | Ile-34 to Ala-40. | Arg-70 to Ser-78. |
| | 3475 | 3476 | 3477 | 3478 | 3479 |
| · | 2 - 355 | 2 - 439 | 10 - 165 | 288 - 572 | 2 - 283 |
| | 1300 | 1301 | 1302 | 1303 | 1304 |
| | HNOJB57R | HNOJD14R | HNOJF20R | HNOJG05R | HNOJH48R |
| | HNOJB57 | HNOJD14 | HNOJF20 | HNOJG05 | HNOJH48 |

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| L0666: 9. H0547: 8 | J0758: 8, S0358: 7 | S0003: 7, L0754: 7, | .0485: 7, S0280: 6 | H0038: 6, H0521: 6, | S3014: 6, L0777: 6, | .0755: 6, H0068: 5, | L0659: 5, L0665: 5, | .0744: 5, L0740: £ | JO591: 5, H0657: | | H0318: 4, H0266: 4 | H0687: 4, H0031: 4, | H0040: 4, S0002: 4, | 30206: 4, L0752: 4, | H0445: 4, H0542: 4 | H0423: 4, H0497: | H0013: 3, H0427: | H0046: 3, H0014: 3, | H0615: 3, L0142: 3, | 30036: 3, H0090: | H0551: 3, S0440: 3, | L0662: 3, L0767: 3, | 10696: 3, S0027: 3 | S0028: 3, L0731: 3, | .0362: 3, S0196: 3 | H0662: 2, H0638: 2, | H0580: 2, S0045: 2, | S0222: 2, H0587: 2, | H0486: 2, H0706: 2, |
| | 브 | <u>s</u> | | <u> 14</u> | <u>N</u> | | | . 🗀 . | | <u> </u> | <u> </u> | <u>i-L-i</u> | <u>. 14</u> . | S | <u> </u> | <u>i.i.</u> | <u>, i-l-i</u> | <u> </u> | <u>, 114</u> | S | <u>i-L-(</u> | | <u>.</u> ; <u>.</u> +-i. | S | <u>, 1941</u> | <u> </u> | | S | <u>, 14</u> |
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| S0010: 2, S0346: 2, | F0048: 2, S0474: 2, | H0581: 2, H0428: | .0483: 2, H0553: 2, | 30366: 2, H0634: | H0616: 2, H0412: 2, | H0623: 2, L0763: 2, | .0637: 2, L0667: 3 | .0646: 2, L0768: | .0774: 2, L0657: | .0663: 2, H0144: 2, | S0374: 2, H0520: 2, | H0519: 2, S0126: 2, | 30328: 2, S0146: 2 | H0555: 2, H0436: 2, | .0747: 2, L0595: 3 | S0026: 2, S0194: 2, | H0506: 2, L0600: 2, | H0170: 1, H0171: | H0556: 1, T0002: 1, | H0686: 1, S0114: | Γ0049: 1, S0001: 1 | 30282: 1, H0663: | H0305: 1, S0356: | S0444: 1, H0329: 1 | S0046: 1, L0717: | H0411: 1, H0550: 1 | H0441: 1, H0370: 1 | H0600: 1, S0005: 1, | H0333: 1, H0331: 1 |
| <u> </u> | | | | | 1 | . #4 | | | <u>. -</u> | | <u> </u> | | <u> </u> | <u> </u> | _ | <u> </u> | <u> </u> | <u> </u> | # | <u> </u> | <u></u> | <u> </u> | <u> </u> | <u></u> | <u> </u> | | | | 1 |
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| H0574: 1, T0082: 1, | H0122: 1, H0196: 1, | 050: 1, L0471: 1, | H0057: 1, H0373: 1, | 010: 1, H0510: 1, | 416: 1, S0318: 1, | 316: 1, S0214: 1, | 644: 1, H0074: 1, | 165: 1, H0168: 1, | 169: 1, H0674: 1, | 364: 1, H0708: 1, | 598: 1, H0135: 1, | 163: 1, H0591: 1, | 264: 1, H0272: 1, | H0488: 1, H0413: 1, | 056: 1, S0386: 1, | L0370: 1, T0041: 1, | S0014: 1, H0131: 1, | 130: 1, H0647: 1, | 344: 1, S0422: 1, | L0598: 1, L0640: 1, | 770: 1, L0769: 1, | .0643: 1, L0771: 1, | .0773: 1, L0766: 1, | | .0651: 1, L0806: 1, | .0653: 1, L0776: 1, | L0655: 1, L0656: 1, | 809: 1, L0790: 1, |
| OH | OH — | HO | OH HO | OT | OH | 200 | OH | OH | OH | 08 | OH | HO | HO | HO | OH) | <u></u> | SO | OH | SOS | | <u> </u> | <u></u> | <u> </u> | LO | 2 | <u>2</u> | <u> </u> | 1.0 |
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| L0791: 1, L0664: 1, | H0691: 1, H0689: 1, | H0683: 1, H0435: 1, | H0660: 1, H0648: 1, | H0672: 1, H0539: 1, | S0380: 1, H0710: 1, | S0152: 1, S0013: 1, | S0174: 1, H0478: 1, | L0743: 1, L0750: 1, | L0757: 1, S0031: 1, | H0707: 1, L0588: 1, | L0592: 1, L0599: 1, | L0608: 1, L0604: 1, | L0593: 1, H0668: 1, | H0667: 1, S0192: 1, | S0276: 1, H0422: 1, | H0352: 1 and H0712: 1. | | | | | | | L0754: 5, L0731: 4, | L0748: 3, L0750: 3, | H0411; 2, H0012; 2, | H0687: 2, H0644: 2, | L0803: 2, H0550: 1, | L0021: 1, H0599: 1, | L0022: 1, H0042: 1, |
| | | | | | | | | | | | | - | | | | | | Lys-36 to Gln-48, | Gln-56 to Ser-72, | Gly-82 to Val-105, | Lys-114 to Lys-120, | Ser-122 to Cys-133. | Ala-1 to Ser-6. | | | | | | |
| 1 | | | | | | | | | | | | | | | | | 3480 | 3481 | | | | | 3482 | | | | | | |
| | | | | | | | | | | | | | | | | | 3 - 200 | 1 - 489 | | | | | 1 - 552 | | | | | | |
| | | | | | | | | | | | | | | | | | 1305 | 1306 | | | | | 1307 | | | | | | |
| | | | | | | | | | | | | | | | | | HNOJH52R | HNOJ182R | | | | | HINOJI85R | | | | | | |
| | | | | | | | | | | | | | | | | | HNOJH52 | HNOJ182 | - | | | | HNOJI85 | | | | | | |

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| | | | - <u>-</u> | | | | | | | | | | | | | ٠ | | | | | | | | |
| H0575: 1, H0150: 1, H0620: 1, T0003: 1, H0673: 1, L0662: 1, L0650: 1, L0774: 1, | L0375: 1, L0807: 1, L0515: 1, L0659: 1, | L0666: 1, S0374: 1, | H0694: 1, L0747: 1, | L0/49: 1, L0/79: 1 and L0755: 1. | | | | L0588: 14, S0046: 13, | S0045: 12, T0049: 7, | H0599: 7, L0662: 7, | Arg-133 to Trp-139. L0599: 7, H0427: 6, | T0048: 6, H0575: 5, | L0747: 5, H0254: 4, | H0618: 4, H0617: 4, | H0124: 4, H0413: 4, | H0052: 3, H0024: 3, | H0553: 3, H0269: 3, | H0412: 3, H0056: 3, | H0623: 3, L0764: 3, | L0659: 3, L0809: 3, | L0666: 3, L0750: 3, | L0758: 3, L0600: 3, | S0001: 2, H0255: 2, | H0661: 2, H0619: 2, |
| | , | | | | Lys-19 to Asn-25, | Pro-61 to Lys-66. | | Ser-27 to Gly-38, | Ser-63 to Trp-72, | Trp-79 to Asn-84, | Arg-133 to Trp-139. | ı | | | | ٠ | | | | | | | | |
| | | • | | - | 3483 | | 3484 | 3485 | | | | | | | | ٠. | | | | | | | | |
| | | | | | 1 - 261 | | 2 - 385 | 1 - 462 | | | | | | | | | | | | | | | | |
| | | | | | 1308 | | 1309 | 1310 | | | | | | | | ٠ | | | | | | | | |
| | | | | | HNOJJ20R | | HNOJJ26R | HNOJK66R | | | | | | | | | | | | | | | | • |
| | | | | | HNOJJ20 | | HNOJJ26 | HNOJK66 | | | | | | | | | | | | | | | | |

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| S6022: 2, H0587: 2, S0280: 2, H0253: 2, H0150: 2, H0650: 2, H0188: 2, H0644: 2, S0364: 3, S0036: 3 | L0369: 2, L0768: 2, L0803: 2, L0775: 2, L0375: 2, L0783: 2, | L0438: 2, L0743: 2, L0748: 2, L0439: 2, | L0779: 2, L0604: 2, S6024: 1, L0785: 1, | S0360: 1, H0208 L0717: 1, H0437 | H0369: 1, H0549 H0042: 1, H0309 | H0085: 1, H0263: 1, | H0123: 1, S0050: 1, L0163: 1, H0266: 1, | H0687: 1, H0039: 1, | H0031: 1, H0163: 1, | H0616: 1, H0063: | H0264: 1, H0268: 1 | L0769: 1, L0538 | L0643: 1, L0648: 1, | L0794: 1, L0804 | L0774: 1, L0651: | L0378: 1, L0806: |
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| 534: 1, 563: 1, 244: 1, 74: 1, 731: 1, 589: 1, 366: 1 and | | | | | | | - | | | | | | | | | | | |
|--|--------------------------------------|--|-----------|-------------------|---------------------|-------------------|-------------------|-------------------|----------|-------------------|-------------------|-------------------|-------------------|---------------------|---------------------|--------------------|-----------|---------------------------------------|
| L0555: 1, L0634: 1, L0788: 1, L0663: 1, L0665: 1, S0044: 1, S0190: 1, L0744: 1, L0749: 1, L0731: 1, H0445: 1, L0589: 1, L0361: 1, L0366: 1 and S0458: 1 | | | | | 1 | | | | | • | | | | | | | | |
| · | Glu-1 to Ser-9, Pro-60 to Gln-66. | Gly-105 to Glu-110, Ala-133 to Tyr-142. | | Trp-42 to Glu-50. | Phe-164 to Leu-170. | Gln-30 to Gly-36, | Lys-43 to Lys-54, | Thr-73 to Ile-79. | | Lys-17 to Leu-27, | Thr-39 to Leu-44, | Asp-62 to Gly-70, | Arg-89 to Asp-94, | Arg-102 to Gly-113, | Lys-127 to Glu-132, | Thr-152 to Arg-160 | | Gly-8 to Ala-15, Leu-33 to His-50, |
| | 3486 | 3487 | 3488 | 3489 | 3490 | 3491 | | | 3492 | 3493 | | | _ | | - | | 3494 | 3495 |
| | 204 - 479 | 3 - 428 | 426 - 265 | 12 - 302 | 1 - 510 | 2 - 268 | | | 2 - 85 | 1 - 510 | | | | | | | 188 - 418 | 2 - 331 |
| | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | | | 1317 | 1318 | | | | | | | 1319 | 1320 |
| | HNOJL59R | HNOJM64R | HNOJOSSR | HNOJP42R | HNOJQ22R | HNOKA20 HNOKA20R | | | HNOKD74R | HNOKG34 HNOKG34R | | | | | | | HNOKG69R | HNOKG71 HNOKG71R |
| | HNOJL59 | HNOJM64 | HNOJO55 | HNOJP42 | HNOJQ22 | HNOKA20 | | | HNOKD74 | HNOKG34 | | | | | | | HNOKG69 | HNOKG71 |

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| | L0666: 11, S0358: 8, | L0752: 8, L0749: 5, | L0362: 5, L0771: 4, | L0803: 4, L0528: 4, | L0664: 4, L0740: 4, | L0754: 4, L0599: 4, | L0657: 3, L0659: 3, | L0663: 3, L0748: 3, | L0750: 3, L0757: 3, | L0758: 3, H0171: 2, | S0360: 2, H0574: 2, | H0251: 2, L0483: 2, | H0412: 2, H0509: 2, | L0770: 2, L0774: 2, | L0775: 2, L0665: 2, | H0690: 2, S0330: 2, | L0755: 2, L0731: 2, | L0595: 2, H0624: 1, | H0170: 1, H0685: 1, | H0656: 1, H0663: 1, | H0305: 1, H0589: 1, | S0356: 1, S0354: 1, | H0580: 1, S0132: 1, | S0300: 1, L0717: 1, | H0331: 1, H0013: 1, | H0108: 1, L0105: 1, | H0052: 1, H0546: 1, |
| Phe-59 to Gly-64, Glv-70 to Gly-84. | Thr-20 to Asp-27, | His-39 to Thr-44. | | | - | | | | | | | | | | | . • | | | | | | | | | | | , |
| | 3496 | | ; | | | | | | | | • • | | | | | | | | | | | | | | | | |
| | 214 - 411 | | | | | | | | | | | | | | | • | | | | | | | | | | | |
| | 1321 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HNOKH94R | | | | | | | | | | | | | | | | | | | | | | | ÷ | | | |
| · | HNOKH94 | | | | | | | | | | | | | ··· | | | | | | | | | | | | | |

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| H0123: 1, H0024: 1, | H0373: 1, H0266: 1, | H0687: 1, L0142: 1, | H0628: 1, H0673: 1, | H0598: 1, H0038: 1, | H0529: 1, L0763: 1, | L0637: 1, L0761: 1, | L0646: 1, L0641: 1, | L0768: 1, L0804: 1, | L0650: 1, L0776: 1, | L0656: 1, L0526: 1, | L0367: 1, S0374: 1, | H0691: 1, H0519: 1, | H0682: 1, H0684: 1, | H0648: 1, L0602: 1, | S0454: 1, L0439: 1, | L0747: 1, L0779: 1, | L0780: 1, L0753: 1, | L0759: 1, S0434: 1, | L0591: 1, L0592: 1, | L0608: 1, L0366: 1, | S0194: 1 and H0542: 1. | S0410: 13, L0766: 5, | H0657: 4, S0422: 4, | H0547: 4, S0408: 3, | L0758: 3, S0444: 2, | H0587: 2, H0486: 2, | H0013: 2, H0581: 2, | L0471: 2, L0764: 2, | L0794: 2, L0666: 2, |
| | | | | | • | | | | | | | | | | <u> </u> | | | | | | | Asp-36 to Glu-46, | Gln-52 to Ile-61, | Leu-76 to Lys-87, | Asn-100 to Val-108, L0758: 3, S0444: 2, | Ser-120 to Gln-128. H0587; 2, H0486; 2, | | | |
| | | | | | · · | | | | | | | | | | | | | | | | | 3497 | | | | | | | |
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| | _ | | | | | _ | | | | | | | | | | | | | | | | 1322 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | HNOKI06R | | | | | | | |
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| L0663: 2, H0520: 2, H0660: 2, H0436: 2, L0740: 2, L0751: 2, H0445: 2, S0436: 2, S0400: 1, H0351: 1, H0411: 1, H0632: 1, H0575: 1, S0010: 1, H0575: 1, S0010: 1, H0046: 1, H0545: 1, H0046: 1, H0567: 1, H0053: 1, H0617: 1, H0564: 1, S0386: 1, L0771: 1, L0646: 1, L0771: 1, L0646: 1, L0771: 1, L0662: 1, L0771: 1, L0665: 1, L0664: 1, H0519: 1, H0521: 1, H0478: 1, L0756: 1, L0752: 1, L0756: 1, S0434: 1, | H0543: 1. | L0751: 9, H0556: 8, H0617: 8, L0777: 6, |
|--|--------------------------------------|--|
| | Glu-1 to Pro-7, Asp-25 to Leu-31, | Arg-54 to Lys-73. Pro-7 to Gly-20. |
| | 3498 | 3499 |
| | 2 - 370 | 57 - 284 |
| | 1323 | 1324 |
| | HNOKI89R | HNOKN33 HNOKN33R |
| | HNOKI89 | HNOKN33 |

| H0618: 1, S0049: 1, H0196: 1, H0235: 1, H0597: 1, H0231: 1, H0327: 1, H0566: 1, H0024: 1, L0163: 1, |
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| H0594: 1, H0424: 1, | H0213: 1, H0030: 1, | H0031: 1, H0598: 1, | H0100: 1, L0351: 1, | H0560: 1, H0625: 1, | H0561: 1, H0633: 1, | S0144: 1, S0002: 1, | S0426: 1, L0763: 1, | L0770: 1, L0772: 1, | L0372: 1, L0645: 1, | L0662: 1, L0767: 1, | L0651: 1, L0378: 1, | L0776: 1, L0657: 1, | L0783: 1, L0382: 1, | L0663: 1, S0052: 1, | H0520: 1, H0547: 1, | H0670: 1, S0378: 1, | S0380: 1, H0522: 1, | H0555: 1, S3014: 1, | L0743: 1, L0756: 1, | L0753: 1, L0759: 1, | S0031: 1, S0434: 1, | L0581: 1, L0595: 1, | L0366: 1 and H0423: 1. | L0665: 14, L0666: 13, | L0662: 10, L0659: 10, | L0646: 9, L0655: 7, | L0663: 7, H0648: 7, | L0775: 6, L0717: 5, | L0657: 5, H0436: 5, |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L0756: 5, L0731: 5, | .0766: 4, L0748: 4, | S0212: 3, L0598: 3, | .0637: 3, L0761: 3, | .0664: 3, H0658: 3, | .0742: 3, L0439: 3, | .0747: 3, L0750: 3, | .0755: 3, L0758: 3, | .0604: 3, L0595: 3, | 10686: 2, L0002: 2, | S0376: 2, S0360: 2, | S6026: 2, H0351: 2, | S0222: 2, H0455: 2, | .0471: 2, H0014: 2, | 10006: 2, S0440: 2, | 30422: 2, L0667: 2, | .0641: 2, L0764: 2, | .0768: 2, L0774: 2, | J0776: 2, L0527: 2, | .0636: 2, L0783: 2, | S0374: 2, H0539: 2, | .0749: 2, L0596: 2, | .0589: 2, L0591: 2, | .0592: 2, L0599: 2, | .0594: 2, L0362: 2, | H0170: 1, S0218: 1, | H0657: 1, H0656: 1, | .0808: 1, S0400: 1, | H0402: 1, S0442: 1, | S0444: 1, S0408: 1, |
| | | | <u> </u> | | | <u>-</u> | | | <u>14</u> | S | <u>S</u> | <u>~</u> | | <u>. </u> | S | | | | | S | | | <u>است</u> | | | <u>. 14</u> | | <u>.</u> | S |
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| H0549: 1, H0441: 1, H0415: 1, H0587: 1, L0622: 1, H0486: 1, T0039: 1, H0156: 1, H0318: 1, H0173: 1, H0196: 1, H0597: 1, H0057: 1, H0373: 1, H0057: 1, H0399: 1, H0061: 1, H0687: 1, H0649: 1, L0055: 1, H0649: 1, L0769: 1, L0373: 1, L0521: 1, L0364: 1, L0649: 1, L0364: 1, L0650: 1, L0661: 1, L0650: 1, L0661: 1, L069: 1, L0656: 1, L069: 1, L0809: 1, L0649: 1, L0656: 1, L0649: 1, L0656: 1, L0649: 1, L0656: 1, L0649: 1, L0656: 1, L0650: 1, L0659: 1, L0649: 1, L0659: 1, L0649: 1, L0659: 1, L0649: 1, L0659: 1, L0649: 1, L0817: 1, L0526: 1, L0817: 1, L0526: 1, L0817: 1, L0659: 1, H0519: 1, H0659: 1, | |
|--|---------------------|
| H0549: 1, H0441: 1, H0415: 1, H0587: 1, L0622: 1, H0486: 1, T0039: 1, H0156: 1, H0318: 1, H0173: 1, H00196: 1, H0597: 1, L0041: 1, H0011: 1, H0057: 1, H0373: 1, H0051: 1, S0051: 1, H0061: 1, H0399: 1, H0061: 1, H0687: 1, H0649: 1, L0769: 1, L0373: 1, L0769: 1, L0373: 1, L0769: 1, L0373: 1, L0649: 1, L0373: 1, L0649: 1, L0373: 1, L0649: 1, L0661: 1, L0650: 1, L0661: 1, L0697: 1, L0661: 1, L0647: 1, L0809: 1, L0647: 1, L0809: 1, L0647: 1, L0809: 1, L0647: 1, H0519: 1, H0659: 1, H0660: 1, H0659: 1, | |
| | S0328: 1, S0380: 1, |
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| H0710: 1, H0579: 1, S0404: 1, S0406: 1, L0740: 1, L0754: 1, L0777: 1, L0759: 1, S0308: 1, L0605: 1, L0581: 1, L0608: 1, L0601: 1, H0543: 1, S0412: 1, S0424: 1 and H0506: 1. | | | | H0624: 10, S0192: 8, S0022: 7, S0212: 5, H0031: 4, H0412: 4, S0028: 4, L0747: 4, S0194: 4, H0717: 3, H0427: 3, L0471: 3, S0250: 3, H0039: 3, |
|--|---|---|--|--|
| E S L I S L I S H | Lys-1 to Glu-6, Pro-8 to Gln-21, Ser-43 to Glu-51, Val-61 to Gly-68, Arg-75 to Pro-87, Ser-92 to Phe-98. | Lys-13 to Ser-41, Lys-57 to Lys-66, Lys-89 to Lys-97, Lys-113 to Ala-118, Pro-131 to Ala-147, Ala-159 to Ala-169. | Lys-24 to Lys-31, Gly-132 to Glu-137. | SHSSHS |
| | 3501 | 3502 | 3503 | 3504 |
| | 98 - 457 | 3 - 509 | 3 - 488 | 216 - 401 |
| | 1326 | 1327 | 1328 | 1329 |
| | HNOKT24R | HNOKU52R | HNOKV82R | HNOKZ03R |
| | HNOKT24 | HNOKU52 | HNOKV82 | HNOKZ03 |

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|---------------------|---------------------|---------------------|-------------|-------------|---------------------|-------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------|---------------------|--------------------|-------------|---------------------|-------------|---------------------|------------------|------------------|------------------|------------------|------------------|-------------|--------------------|------------------|---------------------|--------------------|
| 10040: 3, | 10144: 3, | 30126: 3, | 0027: 3, | 0439: 3, | 10661: 2, | 10208: 2, | 0046: 2, | 10486: 2, | 10024: 2, | 10622: 2, | 0210: 2, | .0740: 2, | .0605: 2, | 10171: 1, | 10716: 1, | 0116: 1, | 0442: 1, | 0300: 1, | 10586: 1, | 10156: 1, | 0474: 1, | 10596: 1, | 10045: 1, | 10620: 1, | 70010: 1, | 30003: 1, | 10030: 1, | 0366: 1, | 10038: 1, |
| H0644: 3, H0040: 3, | H0059: 3, H0144: 3, | H0547: 3, S0126: 3, | S0037: 3, S | S0206: 3, L | H0713: 2, H0661: 2, | S0360: 2, H | S0045: 2, S0046: 2, | H0587: 2, H0486: 2, | H0575: 2, H0024: 2, | H0266: 2, H0622: 2, | H0551: 2, S0210: 2, | H0520: 2, L0740: 2, | L0731: 2, L | H0170: 1, H0171: 1, | S0040: 1, H0716: 1 | H0294: 1, S | S0420: 1, S0442: 1, | H0619: 1, S | H0592: 1, H0586: 1, | H0485: 1, H0156: | H0590: 1, S0474: | S0049: 1, H0596: | H0544: 1, H0045: | H0012: 1, H0620: | H0014: 1, 1 | H0687: 1, S0003: 1 | H0615: 1, H0030: | S0364: 1, S0366: 1, | H0090: 1, H0038: 1 |
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| H0272: 1, H0334: 1, S0150: 1, L0598: 1, L0767: 1, L0766: 1, L0665: 1, T0068: 1, L0438: 1, H0660: 1, S3014: 1, L0744: 1, L0754: 1, L0749: 1, L0757: 1, L0759: 1, L0588: 1, L0589: 1, L0591: 1, L0592: 1, S0011: 1, H0665: 1, | | | S0412: 22, L0662: 19, L0777: 14, S0010: 11, S0222: 9, S6028: 9, L0750: 9, T0010: 8, | L0659: 8, L0747: 8, L0756: 8, L0663: 7, L0439: 7, H0051: 6, L0518: 6, L0754: 6, |
|---|--|---------------------------------------|--|--|
| · | Leu-24 to Thr-39, Gln-70 to Glu-81, Arg-86 to Leu-98, Glu-104 to Pro-110, Pro-134 to Arg-157, Val-159 to Asn-166. | Gly-1 to Ser-22, Pro-29 to Lys-70. | | |
| | 3505 | 3506 | 3507 | |
| | 2 - 595 | 1 - 210 | 2 - 499 | |
| | 1330 | 1331 | 1332 | |
| · | HNORA56R | HNORB68R | HNORC14R | |
| | HNORA56 | HNORB68 | HNORC14 | |

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|--------------------|---------------------|---------------------|---------------------|------------------|----------------|---------------------|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------|---------------|------------------|--------------------|----------------|--------------------|------------------|--------------------|------------------|
| 58: 4, | 3:4, | 62: 3, | 27: 3, | 73: 3, | 17: 3, | 74: 3, | 66: 3, | 72: 3, | 31: 3, | 13: 2, | 11: 2, | 74: 2, | 36: 2, | 19: 2, | 27: 2, | 28: 2, | 44: 2, | 20: 2, | 70: 2, | 7: 2, | 2: 1, | 43: 1, | 2: 1, | 51: 1, | 6: 1, | 29: 1, | 19: 1, | 0. 1, | 22: 1, |
| H0575: 5, S0358: 4 | S0346: 4, L0753: 4, | H0170: 3, H0662: 3, | S0360: 3, H0427: 3, | L0471: 3, H0373: | L0638: 3, L063 | L0764: 3, L0774: 3, | L0809: 3, L060 | S0310: 3, H0672: 3, | H0696: 3, L0731: 3, | H0506: 3, H0713: 2, | S0408: 2, H0411: 2, | H0455: 2, H0574: 2, | S0414: 2, H0486: 2, | H0036: 2, S0049: 2, | H0052: 2, H0327: 2, | H0687: 2, H0428: 2, | H0553: 2, H0644: 2, | H0038: 2, L0520: 2, | L0762: 2, L0770: 2, | L0653: 2, L0517: 2, | S0044: 2, L044 | H0583: 1, L04 | S0110: 1, S0282: | S0400: 1, H0661: 1 | S0348: 1, S035 | S0444: 1, H0329: 1 | S0007: 1, H0619: | S6026: 1, S0300: 1 | L0717: 1, S6022: |
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|): 1, H0592: 1, | : 1, H0599: 1, | : 1, H0590: 1, | H0318: 1, H0309: 1, | : 1, H0563: 1, | H0564: 1, H0123: 1, | : 1, S0050: 1, | L0163: 1, S0388: 1, | i: 1, H0328: 1, | : 1, H0039: 1, | F0023: 1, H0031: 1, | : 1, H0169: 1, | S0364: 1, L0455: 1, | : 1, H0163: 1, | : 1, T0069: 1, | : 1, H0100: 1, | : 1, L0370: 1, | : 1, L0769: 1, | : 1, L0800: 1, | : 1, L0363: 1, | | _ | | : 1, L0523: 1, | : 1, L0776: 1, | : 1, L0657: 1, | .0635: 1, L0783: 1, | : 1, L0532: 1, | .0664: 1, H0691: 1, | F0068: 1, S0148: 1, |
|-----------------|----------------|----------------|---------------------|----------------|---------------------|----------------|---------------------|-----------------|----------------|---------------------|----------------|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------|----------|--------|----------------|----------------|----------------|---------------------|----------------|---------------------|---------------------|
| H0550: 1 | H0587: 1 | H0042 | H0318 | H0545 | H0564 | H0019 | L0163: | H0356 | H0688 | T0023: | H0111: 1 | S0364: | H0135 | T0067: | T0004: 1 | S0112: 1 | L0598: 1 | L0630: 1, | L0648: 1 | F0768: 1 | L0803: 1 | T0375: | L0784: | L0805: | L0527: 1 | T0635: | T0789: | L0664: | T0068: |
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| H0693: 1, H0520: 1, H0593: 1, H0689: 1, H0684: 1, S0330: 1, S0380: 1, S0174: 1, H0555: 1, L0612: 1, L0743: 1, L0748: 1, L0779: 1, L0749: 1, L0779: 1, L0759: 1, L0689: 1, S0434: 1, L0604: 1, L0366: 1, S0106: 1 and S0021: 1. | | H0585: 20, H0641: 14, H0521: 9, H0141: 5, H0031: 5, H0422: 5, H0644: 4, L0755: 4, H0295: 3, H0638: 3, S0376: 3, H0639: 3, H0690: 3, L0757: 3, H0690: 3, L0757: 3, H0690: 2, H0581: 2, H0662: 2, H0691: 2, H0662: 2, H0691: 2, H0520: 2, L0740: 2, L0777: 2, H0423: 2, S0298: 1, H0306: 1, S0278: 1, H0549: 1, S0222: 1 |
|--|-----------------|--|
| | | Ala-24 to Lys-29, Lys-51 to Gly-62. |
| | 3508 | 3509 |
| | 155 - 430 | 2 - 436 |
| | 1333 | 1334 |
| | HNORD11R | HNORE65R |
| · | HNORD11 | HNOREGS |

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| H0587: 1, H0333: 1, | H0575: 1, H0706: 1, | H0052: 1, H0309: 1, | H0596: 1, H0546: 1, | H0545: 1, H0086: 1, | H0009: 1, H0284: 1, | T0023: 1, L0143: 1, | H0551: 1, H0494: 1, | S0438: 1, S0002: 1, | L0371: 1, L0770: 1, | L0769: 1, L0667: 1, | L0372: 1, L0646: 1, | L0553: 1, L0771: 1, | L0774: 1, L0375: 1, | L0806: 1, L0382: 1, | H0703: 1, H0593: 1, | H0682: 1, S0328: 1, | S0380: 1, H0555: 1, | S0027: 1, L0742: 1, | L0747: 1, L0779: 1, | L0753: 1, H0445: 1 and | H0543: 1. | L0439: 6, L0794: 2, | L0665: 2, H0691: 2, | L0717: 1, H0068: 1, | L0761: 1, L0646: 1, | L0773: 1, L0662: 1, | L0790: 1, L0663: 1, | L0438: 1, L0748: 1, | L0758: 1, L0592: 1 and |
| | | | | | | | | | | | | | | | | | | | | | | Pro-19 to His-36, | Glu-68 to Ala-86. | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | 3510 | | | | | | | |
| | | | | | | | | | | | | | 1 | 1 | | | | | | | | 37 - 387 | | | | | - | | |
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| L0608: 1. | | | | | S0358: 7, L0750: 7, | S0360: 6, H0617: 5, | S0126: 4, H0545: 3, | L0776: 3, S0374: 3, | L0748: 3, L0755: 3, | L0588: 3, H0422: 3, | H0685: 2, H0549: 2, | H0550: 2, H0632: 2, | H0546: 2, H0424: 2, | H0163: 2, H0551: 2, | L0665: 2, H0593: 2, | H0660: 2, S0330: 2, | L0747: 2, L0749: 2, | L0777: 2, L0757: 2, | S0031: 2, H0556: 1, | H0686: 1, H0295: 1, | S0430: 1, H0657: 1, | H0341: 1, H0662: 1, | S0278: 1, H0282: 1, | H0592: 1, H0586: 1, | H0486: 1, T0039: 1, | T0109: 1, H0004: 1, | H0581: 1, H0309: 1, | H0596: 1, T0110: 1, |
| | | Thr-2 to Phe-7, | Gly-18 to Arg-23, Asp-27 to Glu-35. | Gly-1 to Thr-10. | | | | | | | | | - | | | | | | | | | | | | - | | | |
| | 3511 | 3512 | | 3513 | 3514 | | | | | • | | | | | | | | | | | | | | | | | | |
| | 1 - 168 | 2 - 334 | | 1 - 636 | 3 - 680 | | | | | | | | | | | | | | | - | | | | | | | | |
| | 1336 | 1337 | • | 1338 | 1339 | | | | | | | | | | | | | | | | | | | | | | | |
| | HNORF04R | HNORF05R | | HNORF13R | HNORH03R | | | | | | | | | | | | | | | | | | | | | | | |
| | HNORF04 | HNORF05 | | HNORF13 | HNORH03 | | | | | | | | | • | | | | | | | | | | | | | | |

| H0231: 1, H0123: 1, H0620: 1, H0083: 1, H0594: 1, H0687: 1, L0483: 1, H0644: 1, H0361: 1, H0087: 1, H0413: 1, H0087: 1, H0494: 1, S0306: 1, S0440: 1, H0509: 1, L0770: 1, L0762: 1, L0770: 1, L0762: 1, L0771: 1, L0773: 1, L0771: 1, L0773: 1, L0775: 1, L0656: 1, L0807: 1, L0656: 1, H0659: 1, L0349: 1, S0216: 1, H0144: 1, H0691: 1, H0690: 1, H0684: 1, H0658: 1, H0689: 1, H0672: 1, S0328: 1, S0378: 1, S0380: 1, H0518: 1, H0655: 1, L0741: 1, | S0192: 1, S0194: 1, S0460: 1 and H0352: 1. | |
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| | | Arg-13 to Arg-21, Asp-26 to Pro-35, |
| | | 3515 |
| | | 1 - 498 |
| | | 1340 |
| | | HNORH05R |
| | | HNORH05 |

| | | , | • | | L0742: 10, H0144: 6, | H0265: 5, S0116: 4, | S0046: 4, S0222: 4, | H0556: 3, H0250: 3, | H0052: 3, S0027: 3, | L0595: 3, S0212: 2, | H0306: 2, S0358: 2, | H0013: 2, H0618: 2, | H0124: 2, H0100: 2, | S0053: 2, H0660: 2, | S0330: 2, S3012: 2, | L0748: 2, L0439: 2, | L0745: 2, L0757: 2, | H0445: 2, S0342: 1, | H0484: 1, H0638: 1, | S0007: 1, H0393: 1, | H0437: 1, H0549: 1, | H0438: 1, H0486: 1, |
|--|--|--------------------|------------------|-------------------|----------------------|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Glu-58 to Gly-65, Ser-74 to Pro-82, Gln-107 to Asp-115, Asp-128 to Asn- 137, Gln-145 to Arg-154, Gln-161 to Ser-166. | Ala-19 to Ser-27, Ser-41 to Val-53. | Asn-95 to Leu-100. | Pro-3 to Ile-12, | Asn-20 to Glu-25. | Ile-121 to Val-129, | Ala-136 to Glu-142. H0265: 5, S0116: 4, | | | | | | | | | | | | | | | | , |
| | 3516 | 3517 | 3518 | | 3519 | | | | • | | | | | • | | | | | | | | |
| | 20 - 244 | 3 - 377 | 144 - 377 | | 3 - 530 | | | · | | | - | | | | | | | | - | | | |
| | 1341 | 1342 | 1343 | | 1344 | | | | | | | | | | | | | | | | | |
| | HNORH35R | HNORJ08R | HNTRB70R | | HOCMA02 HOCMA02R | ¥ | | | | | | | | | | | | | | | | |
| | HNORH35 | HNORJ08 | HNTRB70 | | HOCMA02 | | | | | | | | | | | | | | | | | |

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| H0253: 1, H0390: 1, | H0544: 1, H0046: 1, | H0009: 1, H0023: 1, | N0007: 1, T0010: 1, | H0188: 1, H0687: 1, | S0003: 1, H0030: 1, | S0364: 1, L0455: 1, | S0366: 1, H0090: 1, | H0038: 1, H0551: 1, | H0412: 1, H0059: 1, | S0038: 1, H0130: 1, | H0641: 1, S0142: 1, | S0002: 1, H0517: 1, | ┰ | L0794: 1, L0766: 1, | L0775: 1, L0654: 1, | 7 | S0008: 1, H0435: 1, | H0672: 1, H0521: 1, | H0522: 1, S0044: 1, | H0576: 1, L0779: 1, | L0605: 1, L0593: 1, | S0026: 1, H0667: 1, | S0276: 1, S0196: 1, | H0542: 1, H0423: 1 and | H0506: 1. | L0439: 17, L0438: 6, | H0424: 5, S0007: 4, | L0769: 4, H0213: 3, |
| | | | | | | | | | | | | | | | | | | | | | | | | | ! | Asn-39 to Gln-44, | Leu-47 to Asp-55. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 3520 | | |
| | | | | | , | | | | | | | | | | | | | | | | • | | | | | 347 - 541 | | |
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| L0776: 3, H0660: 3, H0309: 2, S0051: 2, L0789: 2, L0663: 2, L0750: 2, L0757: 2, L0759: 2, S0196: 2, S0040: 1, S0001: 1, H0662: 1, H0402: 1, H0052: 1, H0402: 1, H0009: 1, T0010: 1, H0009: 1, T0010: 1, L0483: 1, L0634: 1, H0169: 1, H0634: 1, H0543: 1, L0764: 1, L0768: 1, L0764: 1, L0768: 1, L0764: 1, L0791: 1, L0352: 1, H0749: 1, L0777: 1, L0758: 1, L0777: 1, L0758: 1, S0394: 1, L0758: 1, S0394: 1, L0758: 1, S0394: 1, | | |
|---|--------------------|---|
| · | | Lys-18 to Tyr-31, Ile-45 to Asp-50, Trp-78 to Ser-88, |
| | 3521 | 3522 |
| | 241 - 456 | 1 - 426 |
| · | 1346 | 1347 |
| | HOCMB65 HOCMB65R A | HOCMC08 HOCMC08R |
| | HOCMB65 | носмс08 |

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|---------------------|-----------|-----------------------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | L0748: 26, H0046: 18, | H0510: 7, H0673: 7, | L0803: 7, H0169: 6, | H0144: 6, L0731: 4, | H0574: 3, H0521: 3, | H0370: 2, H0615: 2, | H0032: 2, T0067: 2, | H0509: 2, S0210: 2, | L0776: 2, L0749: 2, | L0750: 2, L0595: 2, | H0170: 1, H0656: 1, | H0341: 1, H0151: 1, | S0046: 1, S0132: 1, | H0619: 1, H0351: 1, | S0222: 1, H0497: 1, | H0632: 1, H0486: 1, | H0156: 1, H0575: 1, | H0052: 1, H0596: 1, | H0057: 1, H0014: 1, | H0355: 1, H0286: 1, | H0622: 1, H0165: 1, | H0674: 1, H0212: 1, | H0038: 1, H0379: 1, | H0059: 1, T0041: 1, | S0448: 1, H0132: 1, | S0150: 1, L0646: 1, | L0774: 1, L0527: 1, | L0657: 1, L0809: 1, |
| Pro-102 to Pro-109. | | Glu-1 to Ile-6, | Asp-125 to Pro-131. [H0510: 7, H0673: 7, | | | | | - | | | | | | | | | | | | | | | | | | | | | |
| | 3523 | 3524 | | ; | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 382 - 588 | 3 - 395 | | | · | | | | | | | | | • | | | | | | | | | | | | | | | |
| | 1348 | 1349 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HOCMF06R | HOCMF27 HOCMF27R | • | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HOCMF06 | HOCMF27 | | | | | | | | | | | | | | | _ | | | | | | | | | | | | ! |

| L0519: 1, L0788: 1, L0789: 1, L0666: 1, H0520: 1, H0519: 1, H0658: 1, H0660: 1, S0152: 1, S0013: 1, H0696: 1, S0044: 1, S0174: 1, S0146: 1, H0479: 1, L0744: 1, L0777: 1, L0758: 1, L0593: 1 and H0136: 1. | H0687: 1, L0663: 1 and H0660: 1. | L0794: 7, L0666: 4, L0750: 3, L0664: 2, L0665: 2, H0670: 2, H0660: 2, L0439: 2, L0751: 2, L0756: 2, H0650: 1, H0150: 1, L0769: 1, L0803: 1, L0378: 1, L0657: 1, H0684: 1 and H0555: 1. | H0657: 13, S0360: 12, S0026: 7, H0547: 6, H0171: 4, S0356: 4, H0551: 4, H0560: 4, H0509: 4, H0689: 4, H0543: 4, S0358: 3, |
|---|--|--|--|
| | Gly-2 to Lys-9, Arg-21 to Glu-32, Pro-58 to Lys-64, Thr-73 to Glu-83. | Lys-1 to Thr-6, Ala-26 to Gly-36, Ser-47 to Gln-55, Leu-72 to Cys-83. | Gly-1 to Asn-9, Glu-31 to Val-39. |
| | 3525 | 3526 | 3527 |
| | 49 - 354 | 37 - 285 | 1 - 456 |
| | 1350 | 1351 | 1352 |
| | HOCMF50 HOCMF50RB | HOCMF54R | HOCMG37 HOCMG37R |
| | HOCMF50 | HOCMF54 | HOCMG37 |

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|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| H0318: 3, S0440: 3, | H0529: 3, H0435: 3, | H0665: 3, H0170: 2, | H0265: 2, H0556: 2, | H0222: 2, S0376: 2, | .0717: 2, H0642: 2, | H0574: 2, H0575: 2, | H0596: 2, S0003: 2, | H0615: 2, H0428: 2, | H0617: 2, H0413: 2, | H0494: 2, H0646: 2, | .0369: 2, H0144: 2, | 20: 2, H0519: 2, | H0690: 2, H0658: 2, | H0660: 2, H0672: 2, | .0362: 2, H0542: 2, | H0423: 2, H0686: 1, | H0650: 1, H0656: 1, | S0212: 1, S0029: 1, | H0483: 1, H0663: 1, | H0664: 1, H0638: 1, | S0420: 1, H0580: 1, | S0278: 1, H0261: 1, | H0438: 1, H0586: 1, | F0060: 1, H0069: 1, | S0010: 1, H0263: 1, | H0327: 1, H0546: 1, | H0014: 1, H0083: 1, | H0510: 1, S6028: 1, | H0266: 1, S0214: 1, |
| H031 | H052 | 990H | H026 | H022 | 1.071 | H057 | H059 | H061 | H061 | H049 | 1036 | H052 | 690H | 990H | 1036 | H042 | 590H | 8021 | H048 | 990H | 80420 | 5027 | H043 | T006 | S0010 | H032 | H001 | H051 | H026 |
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| H0553: 1, H0068: 1, H0090: 1, H0040: 1, H0634: 1, T0067: 1, H0079: 1, H0561: 1, L0065: 1, H0130: 1, L0772: 1, L0648: 1, L0375: 1, L0648: 1, L0659: 1, L0578: 1, H0670: 1, H0648: 1, S0310: 1, L0438: 1, H0670: 1, H0521: 1, H0436: 1, L0736: 1, L0779: 1, L0731: 1, H0343: 1, L0730: 1, L0779: 1, L0731: 1, H0343: 1, L0590: 1, L0591: 1, L0603: 1, H0653: 1, S0196: 1, H0653: 1, S0196: 1, S0384: 1 and H0506: 1. | | | | | L0748: 2, S6028: 1, H0682: 1, H0660: 1, |
|---|----------|---|-------------------|------------------|--|
| | | Lys-23 to Ser-29, Tyr-55 to His-62, Tyr-65 to Leu-71. | Glu-32 to Ser-38. | Gly-1 to Arg-9. | |
| | 3528 | 3529 | 3530 | 3531 | 3532 |
| | 49 - 348 | 1 - 510 | 14 - 400 | 3 - 707 | 2 - 289 |
| | 1353 | 1354 | 1355 | 1356 | 1357 |
| | HOCMI62R | HOCMJ47R | HOCMK20 HOCMK20R | HOCML06 HOCML06R | HOCML66 HOCML66R |
| | HOCMI62 | HOCMJ47 | HOCMK20 | HOCML06 | HOCML66 |

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|------------------------|---|----------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|----------------|---------------------|----------------|---------------------|----------------|---------------------|----------------|------------------|---------------------|---------------------|---------------------|---------------------|------------------|---------------------|------------------|---------------------|---------------------|---------------------|---------------------|------------------|
| 0506: 1. | | | 517: 7, | 5:7, | 74: 6, | 1: 6, | 5: 4, | 2: 4, | 2: 4, | 6: 3, | 11: 3, | 0: 3, | 3: 3, | 9: 3, | 9:3, | 17:3, | 50: 3, | J: 3, | 4:3, | 4: 2, | 11:2, | 2: 2, | 33: 2, | 3: 2, | 31: 2, | 53: 2, | 58: 2, | 10: 2, |
| S0378: 1 and H0506: 1. | | | H0295: 8, H0617: 7 | L0665: 7, H0435: 7 | H0592: 6, H0494: 6, | L0439: 6, L0751: 6, | S0360: 5, S0046: 4, | H0587: 4, H0012: 4, | H0264: 4, L066 | S0406: 4, H0586: 3, | H0620: 3, H003 | H0551: 3, S0440: 3, | S0002: 3, L076 | L0648: 3, L0649: 3, | L0774: 3, L065 | H0520: 3, H0547: | H0689: 3, H0660: 3, | S0328: 3, S0330: 3, | L0748: 3, L0754: 3, | L0750: 3, H0294: 2, | H0650: 2, H0341: | S0356: 2, S0132: 2, | H0370: 2, H0333: | H0643: 2, L0623: 2, | H0706: 2, H0081: 2, | H0039: 2, H0553: 2, | H0181: 2, H0068: 2, | H0135: 2, H0040: |
| | Thr-19 to Cys-25, Lys-133 to Ala-138 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3533 | 3534 | 3535 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 130 - 594 | 3 - 425 | 3 - 500 | | | | | - | | | | | | | | | | | | | | | | | | | | · |
| | 1358 | 1359 | 1360 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HOCMM52 HOCMM52R | HOCMO50R | HOCMS75 HOCMS75R | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HOCMM52 | HOCMO50 | HOCMS75 | | | | | | | | | | | | | | | | | | | | | | | | | |

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|---------------------|--------------|---------------------|--------------|--------------|--------------|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|--------------|---------------------|--------------|---------------------|--------------|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| H0646: 2. L0640: 2. | 2, L0641: 2, | L0764: 2, L0804: 2, | 2, L0776: 2, | 2, L0809: 2, | 2, H0519: 2, | H0682: 2, H0670: 2, | 2, L0744: 2, | 2, S0434: 2, | 2, H0483: 1, | 1, H0638: 1, | 1, S0358: 1, | 1, S0410: 1, | H0411: 1, H0550: 1, | H0455: 1, H0600: 1, | H0101: 1, H0575: 1, | 1, H0618: 1, | H0052: 1, H0234: 1, | 1, H0121: 1, | .0041: 1, H0123: 1, | 1, H0290: 1, | 1, H0428: 1, | H0622: 1, T0023: 1, | H0030: 1, H0316: 1, | H0059: 1, H0100: 1, | S0306: 1, T0090: 1, | H0649: 1, S0210: 1, | S0426: 1, L0646: 1, | .0765: 1, L0771: 1, | L0626: 1, L0768: 1, |
| H0646: | 10637: | L0764: | T0806: | T0657: | L0664: | H0682: | H0672: | L0740: | H0677: | H0305: | S0442: | S0376: | H0411: | H0455: | H0101: | H0590: | H0052: | H0597: | L0041: | H0246: | H0292: | H0622: | H0030: | H0059: | S0306: | H0649: | S0426: | 1.0765: | L0626: |
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| L0364: 1, L0766: 1, L0375: 1, L0651: 1, L0378: 1, L0653: 1, L0655: 1, L0558: 1, L0635: 1, L0518: 1, L0383: 1, L0792: 1, L0663: 1, S0046: 1, H0696: 1, S0044: 1, S3014: 1, L0743: 1, L0752: 1, L0755: 1, L0731: 1, L0759: 1, H0216: 1, H0543: 1, | L0743: 9, H0551: 5, H0645: 4, H0050: 4, S0250: 4, S0192: 4, H0624: 3, T0039: 3, H0087: 3, H0294: 2, H0370: 2, T0040: 2, H0620: 2, H0024: 2, H0622: 2, H0424: 2, H0621: 2, H0063: 2, L0662: 2, L0776: 2, S0028: 2, L0776: 2, S0028: 2, L0776: 2, S0242: 2, S0116: 1, H0484: 1, H0483: 1, S0360: 1, H0586: 1, H0550: 1, H0586: 1, |
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| | Pro-84 to Pro-91. |
| | 3536 |
| | 145 - 636 |
| · | 1361 |
| | HOCMS87R |
| | HOCMS87 |

| H0599: 1, H0575: 1, H0122: 1, H0706: 1, H0421: 1, S0049: 1, H0086: 1, H0123: 1, H0081: 1, H0012: 1, H0687: 1, H0028: 1, H0604: 1, S0386: 1, L0772: 1, L0648: 1, L0803: 1, L0774: 1, L0375: 1, L0774: 1, H0684: 1, S0126: 1, H0684: 1, H0660: 1, S0152: 1, S0027: 1, L0777: 1, L0749: 1, L0779: 1, L0777: 1, | | | | | | | | L0777: 14, L0731: 10, | L0740: 8, L0439: 7, | L0/54: 6, S0222: 5, H0144: 5, L0745: 5, |
|---|----------|--------------------------------------|-------------------|----------|--|----------|-----------------|-----------------------|---------------------|--|
| | | Glu-1 to Gly-6, Leu-27 to Val-40, | Glu-60 to Asn-67. | | Gly-17 to Arg-42, Phe-56 to Ser-66. | | Lys-1 to His-6. | Lys-7 to Glu-13, | Gly-39 to Thr-44, | Glu-98 to Asn-105. |
| | 3537 | 3538 | | 3539 | 3540 | 3541 | 3542 | 3543 | | ! |
| | 86 - 235 | 76 - 354 | | 2 - 466 | 314 - 511 | 394 - 2 | 520 - 789 | 3 - 488 | | |
| | 1362 | 1363 | | 1364 | 1365 | 1366 | 1367 | 1368 | | |
| | HOCMX29R | HOCMY53R | | HOCMY61R | HOCMY79 HOCMY79R | HOCOC38R | | HOCOC94R | | |
| | HOCMX29 | | | HOCMY61 | HOCMY79 | HOCOC38 | HOCOC41 | HOCOC94 | | |

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| H0013: 4, L0770: 4, | S0380: 4, L0748: 4, | .0758: 4, H0171: 3, | 10599: 3, S0010: 3, | 10052: 3, S0003: 3, | H0615: 3, L0598: 3, | .0666: 3, L0665: 3, | H0519: 3, H0658: 3, | L0749: 3, H0255: 2, | 30376: 2, S0444: 2, | S0360: 2, H0632: 2, | H0327: 2, S0214: 2, | H0038: 2, H0040: 2, | .0769: 2, L0638: 2, | .0662: 2, L0794: 2, | L0775: 2, L0776: 2, | 10660: 2, S0330: 2, | .0744: 2, L0750: 2, | .0756: 2, L0757: 2, | L0362: 2, L0361: 2, | 10170: 1, H0685: 1, | S0040: 1, S0342: 1, | 40716: 1, S0001: 1, | 30282: 1, H0662: 1, | S0356: 1, S0358: 1, | 10675: 1, S0408: 1, | H0580: 1, S0300: 1, | H0406: 1, S0278: 1, | H0550: 1, H0441: 1, | H0431: 1, H0600: 1, |
| | <u>S</u> | | <u>jelej</u> | <u> </u> | | <u>.,-1</u> | <u> </u> | | S | S | <u>, 114</u> | <u>. 1-1-i</u> | | | | <u>i-1-i</u> | <u> </u> | | 1 | <u>. 14.</u> | S | | S | S | <u>;4</u> ; | <u>. į. 1-i</u> | <u>i-Li</u> | <u> </u> | 1 |
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| 75: 1, 75: 1, 76: 1, 70: 1, 70: 1, | 2: 1; 1; 1; 1; 1; 1; 1; 1; 1; 1; 1; 1; 1; | 2: 1, 3: 1, 0: 1, 771: 1, 3: 1, 5: 1, | 8. 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, |
| 1, H057 1, H015 1, S0346 1, H059 1, H015 1, H056 | 1, 5005 1, 8005 1, 4026 1, 4011 1, 4062 1, 4063 | 10634: 1, H0412: 1, 10413: 1, H0623: 1, 10494: 1, S0450: 1, 10130: 1, S0142: 1, INKWN: 1, L0771: 0766: 1, L0803: 1, 0804: 1, L0805: 1, 10784: 1, L0805: 1, 1 | 0652: 1, L0653: 1 0655: 1, L0606: 1 0527: 1, L0783: 1 0663: 1, H0547: 10648: 1, H0670: 10648: 1, H0650: 10648: 1, H0696: 10521: 1, H0696: 10540: 1, S0028: 1, S0 |
| H0331: 1, H0574: 1, T0039: 1, H0156: 1, S0665: 1, S0346: 1, H0263: 1, H0596: 1, H0546: 1, H0150: 1, H0009: 1, H0569: 1, | H0051: 1, H0051: 1, H0051: 1, H0056: 1, S0050: 1, S0022: 1, H0428: 1, H0119: 1, H0553: 1, H0628: 1, H0617: 1, H0316: 1 | H0634: 1, H0412: 1, H0413: 1, H0623: 1, H0494: 1, S0450: 1, H0130: 1, S0142: 1, UNKWN: 1, L0771: L0766: 1, L0803: 1, L0804: 1, L074: 1, L0784: 1, L0805: 1, | 20652: 1, L0653: 1 20655: 1, L0606: 1 20527: 1, L0783: 1 20663: 1, H0547: 1 H0689: 1, H0670: H0648: 1, H0696: H0521: 1, H0696: H0540: 1, S0028: 1 H0540: 1, S0028: 1 |
| H I S H H H I | | <u> </u> | <u> </u> |
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| S0206: 1, L0746: 1, L0747: 1, S0031: 1, L0689: 1, S0436: 1, S0194: 1, S0276: 1, S0412: 1, H0506: 1 and H0352: 1. | | | | | H0521: 5, S0040: 3, H0039: 3, H0657: 2, H0341: 2, H0553: 2, S0210: 2, H0593: 2, H0445: 2, L0596: 2, S0212: 1, H0661: 1, S0418: 1, S0354: 1, S0358: 1, H0592: 1, T0039: 1, H0635: 1, |
| | Pro-6 to Arg-12, Gln-17 to Leu-22, His-25 to Asp-32, Gly-62 to Lys-69. | Thr-16 to Phe-28, Cys-58 to Ser-69, Glu-91 to Glu-99, Lys-113 to Gln-119. | Gln-37 to Trp-44, Arg-47 to Phe-57, Phe-67 to Ala-83, Pro-94 to Gly-99, Lys-109 to Cys-116, Arg-130 to Ser-137. | | Glu-1 to Val-9. |
| | 3544 | 3545 | 3546 | 3547 | 3548 |
| | 221 - 502 | 2 - 409 | 9 - 539 | 2 - 382 | 46 - 492 |
| | 1369 | 1370 | 1371 | 1372 | 1373 |
| | HOCOF35R | HOCOF50R | HOCO062 HOCO062R | HOCOP52R | носоо13к |
| | HOCOF35 | HOCOF50 | HOCO062 | HOCOP52 | носод13 |

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|--|-----------|----------|---------------------------------------|----------|--|---------------------|---------------------|---------------------|---------------------|
| H0427: 1, H0544: 1, H0546: 1, H0545: 1, H0046: 1, L0471: 1, H0083: 1, S6028: 1, S0338: 1, S0003: 1, H0068: 1, H0038: 1, H0063: 1, H0551: 1, H0494: 1, H0561: 1, H0494: 1, L0800: 1, L0649: 1, L0800: 1, L0666: 1, H0660: 1, H0518: 1, S0152: 1, S0146: 1, H0555: 1, S0037: 1, S0028: 1, L0603: 1, H0543: 1, H0542: 1, H0543: 1, | | | | | H0046: 5, H0144: 5, L0665: 4, L0662: 3, | L0766: 3, L0750: 3, | L0779: 3, L0759: 3, | H0170: 2, S0376: 2, | H0329: 2, H0427: 2, |
| : | | | Lys-9 to Asp-16, Thr-27 to Trp-36. | | Pro-38 to Gln-43. | | | | |
| | 3549 | 3550 | 3551 | 3552 | 3553 | | | | |
| | 448 - 639 | 2 - 412 | 107 - 268 | 1 - 573 | 1 - 183 | | | | |
| | 1374 | 1375 | 1376 | 1377 | 1378 | | | | |
| | HOCOQ93R | HOCOT70R | HOCOV29 HOCOV29R | HOCPF69R | HOCPG38R | | | | |
| | HOC0093 | HOCOT70 | HOCOV29 | HOCPF69 | HOCPG38 | | | | |

| L0770: 2, L0529: 2, | L0439: 2, L0740: 2, | L0751: 2, L0758: 2, | S0242: 2, H0223: 1, | H0685: 1, S0116: 1, | S0282: 1, H0662: 1, | S6022: 1, H0574: 1, | H0486: 1, H0013: 1, | H0098: 1, H0575: 1, | H0581: 1, H0052: 1, | L0471: 1, H0024: 1, | H0510: 1, H0594: 1, | H0328: 1, H0169: 1, | H0598: 1, H0163: 1, | H0646: 1, L0637: 1, | L0768: 1, L0794: 1, | L0804: 1, L0775: 1, | L0653: 1, L0659: 1, | L0526: 1, L0783: 1, | L0809: 1, L0544: 1, | L0647: 1, L0666: 1, | L0664: 1, S0374: 1, | L0438: 1, H0519: 1, | H0670: 1, H0660: 1, | H0648: 1, S0378: 1, | H0696: 1, S0432: 1, | L0777: 1, L0755: 1, | S0308: 1, L0591: 1, | L0608: 1, S0192: 1, | S0194: 1, H0543: 1, |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
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| H0423: 1 and S0412: 1. | | L0731: 7, S0358: 6, | L0439: 6, L0769: 5, | L0809: 4, L0747: 4, | S0354: 3, H0580: 3, | H0438: 3, H0581: 3, | L0770: 3, L0766: 3, | L0774: 3, L0775: 3, | L0740: 3, L0749: 3, | L0758: 3, L0596: 3, | H0677: 3, H0392: 2, | H0457: 2, L0471: 2, | H0510: 2, H0169: 2, | H0551: 2, T0042: 2, | H0494: 2, S0438: 2, | L0761: 2, L0657: 2, | L0783: 2, L0647: 2, | L0666: 2, L0565: 2, | L0438: 2, H0521: 2, | L0748: 2, L0750: 2, | L0779: 2, L0752: 2, | L0759: 2, L0588: 2, | L0605: 2, L0592: 2, | L0581: 2, L0615: 1, | S0116: 1, H0638: 1, | S0418: 1, S0444: 1, | S0360: 1, S0222: 1, | H0586: 1, H0427: 1, | H0618: 1, H0390: 1, |
|------------------------|----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | Leu-9 to Val-14, | Glu-41 to Ala-49. | | | | | | - | | | | | | | | | | | | | | | | | | | | |
| | 3554 | 3555 | • | : | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 39 - 185 | 2-217 | | | _ | | | | | _ | | | | | | | | | | | | | - | | • | | | : | - |
| | 1379 | 1380 | | | | | | | | | | | | • | | | | | | | | | | | | | | | |
| | HOCPG48R | HOCPH40R | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HOCPG48 | HOCPH40 | | | | | | | | | | | | | | | | | | | | | - | | | | | | |

| H0318: 1, H0007: 1, H0052: 1, H0544: 1, H0024: 1, H0014: 1, H0083: 1, H0266: 1, H0398: 1, L0055: 1, H0135: 1, H0087: 1, S0344: 1, S0426: 1, L0639: 1, L0763: 1, L0764: 1, L0763: 1, L0768: 1, L0776: 1, L0659: 1, L0518: 1, L0659: 1, L0518: 1, H0660: 1, H0662: 1, H0660: 1, H0682: 1, H0660: 1, H0593: 1, H0660: 1, R0328: 1, H0660: 1, R0328: 1, H06445: 1, L0777: 1, H0445: 1, L0777: 1, | | | | | |
|--|---|----------|-------------------|-----------|----------|
| | Gly-18 to Asp-23, Gln-34 to Gly-40, Asp-81 to Lys-87. | | Asp-43 to Gly-48. | | |
| | 3556 | 3557 | 3558 | 3559 | 3560 |
| | 3 - 281 | 3 - 245 | 2-232 | 285 - 530 | 2 - 136 |
| | 1381 | 1382 | 1383 | 1384 | 1385 |
| | HOCPH44R | HOCP128R | HOCPIS3R | HOCPL59R | HOCPM39R |
| | НОСРН44 | HOCPI28 | HOCPI53 | HOCPL59 | HOCPM39 |

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| L0747: 10, L0805: 6, | S0358: 4, L0775: 4, | L0655: 4, L0749: 4, | H0656: 3, S0440: 3, | L0803: 3, L0776: 3, | L0789: 3, H0650: 2, | H0662: 2, L0471: 2, | H0620: 2, H0169: 2, | H0616: 2, L0770: 2, | L0769: 2, L0761: 2, | L0800: 2, L0794: 2, | L0804: 2, L0806: 2, | L0657: 2, L0809: 2, | L0665: 2, H0547: 2, | S0126: 2, H0660: 2, | H0648: 2, H0521: 2, | S0406: 2, L0748: 2, | L0750: 2, L0758: 2, | L0581: 2, T0002: 1, | H0686: 1, H0657: 1, | S0418: 1, S0420: 1, | S0356: 1, S0442: 1, | S0444: 1, H0574: 1, | H0559: 1, H0486: 1, | L0586: 1, T0114: 1, | H0250: 1, H0318: 1, | H0014: 1, H0051: 1, | H0266: 1, H0292: 1, | H0428: 1, H0031: 1, | H0673: 1, H0163: 1, |
| 3561 Ala-2 to Ala-9. | | , | | | | | | | | | - | | | | | | | | | | | | | | | | | | |
| 3561 | | | | : | | | | | | | | | | | | | | | | • | | | | | | | | • | |
| 3 - 275 | , | | | , | | | | - | | | | | | | | | | | | | | | | | | | | | |
| 1386 | | | | | | | | | | | | | | | | | | | | | | <u></u> | | | | | | | |
| HOCPP65 HOCPP65R | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | |
| HOCPP65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| H0591: 1, H0494: 1, L0640: 1, L0763: 1, L0772: 1, L0773: 1, L0521: 1, L0766: 1, L0774: 1, L0375: 1, L0384: 1, L0793: 1, H0144: 1, H0703: 1, H0690: 1, H0659: 1, H0658: 1, S0328: 1, S0152: 1, L0744: 1, L0779: 1, L0752: 1, L0755: 1, L0731: 1, H0136: 1, H0542: 1 and H0422: 1. | | | L0754: 4, H0290: 2, L0761: 2, L0794: 2, L0766: 2, L0793: 2, L0731: 2, L0758: 2, | L0759: 2, L0594: 2, H0713: 1, H0402: 1, | S0418: 1, S0354: 1, H0580: 1, L0717: 1, H0550: 1, H0333: 1, |
| | Glu-16 to Lys-21, Asn-62 to Arg-68, Asp-94 to Thr-102, Gly-161 to Leu-170. | | Ser-9 to Glu-16, L0754: 4, H0290: 2 Phe-49 to Tyr-58, L0761: 2, L0794: 2, Asn-102 to Gly-110.L0766: 2, L0793: 2, | | |
| | 3562 | 3563 | 3564 | | · |
| . : | 3 - 587 | 26 - 358 | 2 - 394 | | |
| · | 1387 | 1388 | 1389 | | |
| · | HOCPP80R | HOĆPQ24R | HOCPQ59R | | |
| | НОСРР80 | НОСРО24 | носробо | | |

| H0643: 1, H0574: 1, S0280: 1, H0618: 1, H0052: 1, H0618: 1, H00545: 1, H0014: 1, H0033: 1, H0100: 1, L5566: 1, L0773: 1, L0521: 1, L0803: 1, L0804: 1, L0807: 1, H0660: 1, H0570: 1, H0660: 1, H0521: 1, S0404: 1, S0406: 1, H0436: 1, L0779: 1, | | | | | | | L0748: 9, H0556: 8, | L0769: 5, L0766: 4, | 4, H0547: 4, | 4, L0750: 4, | L0752: 4, L0758: 4, | 4, H0542: 4, | H0657: 3, S0418: 3, | H0586: 3, H0587: 3, | Н0013: 3, Н0052: 3, |
|---|---|----------|-------------------|-------------------|---|--------------------|---------------------|---------------------|--------------|--------------|---------------------|--------------|---------------------|---------------------|---------------------|
| H0643: S0280: H0052: H0033: L0521: L0788: H0660: S0404: H0436: H0436: | | | | | ő, <u>4</u> — | 63. | | | L0776: | H0521: | L0752: | S0434: 4 | H0657: | H0586: | H0013: |
| | Asp-24 to Leu-31, Ile-123 to Gln-128 | | Ser-11 to Trp-18, | Glu-43 to Leu-50, | Phe-99 to Arg-120, Ser-136 to Tyr-144, | Glu-154 to Cys-163 | Gln-14 to Lys-19, | Glu-79 to Gly-87. | • | | | | | | |
| | 3565 | 3566 | 3567 | | | | 3568 | | | | | | | | |
| | 2 - 427 | 2 - 487 | 3 - 536 | | | | 1 - 588 | | | | | | | , | |
| | 1390 | 1391 | 1392 | | | | 1393 | | | | | | | | |
| | HOCPQ66R | HOCPQ75R | HOCPR01R | | | | HOCPR29R | | | | | | | | |
| | НОСРQ66 | HOCPQ75 | HOCPR01 | | | | HOCPR29 | | | | | | | | |

| H0083: 3, H0038: 3, | H0634: 3, H0494: 3, | S0440: 3, L0774: 3, | .0775: 3, L0659: 3, | H0522: 3, L0744: 3, | .0749: 3, L0755: 3, | .0759: 3, H0543: 3, | S0358: 2, S0476: 2, | H0156: 2, H0194: 2, | .0471: 2, H0014: 2, | H0201: 2, S0003: 2, | F0023: 2, H0135: 2, | H0551: 2, S0142: 2, | 372: 2, L0662: 2, | .0767: 2, L0381: 2, | .0383: 2, L0666: 2, | .0665: 2, H0658: 2, | H0660: 2, S0044: 2, | S3014: 2, L0751: 2, | .0754: 2, L0596: 2, | .0588: 2, L0591: 2, | .0592: 2, L0595: 2, | .0601: 2, H0423: 2, | S0040: 1, S0134: 1, | S0298: 1, H0661: 1, | H0664: 1, H0125: 1, | S0420: 1, S0356: 1, | S0354: 1, S0444: 1, | S0360: 1, H0619: 1, | H0393: 1, H0549: 1, |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| OH |)H | 08 | <u>2</u> | OH | <u>2</u> | <u> </u> | OS | 0H | <u> </u> | OH | <u>T0</u> | OH | <u>01</u> | 07 | <u> </u> | <u> </u> | OH H | 83 | 07 | <u> </u> | <u> </u> | <u> </u> | OS | 08 | OH HO | 08 | 08 | OS | HO |
| | - | | | | | | | | | <u> </u> | | | | | | | | | | | | | | | | | | | |
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| H0550: 1, S0222: | 6014: 1, H0431: | H0592: 1, H0574: 1, | 0039: 1, T0114: 1 | .0075: 1, H0427: | 0590: 1, H0004: | 0318: 1, H0581: | 0251: 1, H0596: | F0115: 1, H0009: 1 | 0081: 1, H0050: | 0024: 1, T0010: | H0687: 1, H0288: 1 | H0290: 1, H0039: | H0622: 1, L0055: 1 | H0032: 1, H0090: | 0591: 1, H0040: | H0063: 1, H0413: 1 | F0069: 1, S0438: 1 | H0538: 1, S0210: 1 | 0426: 1, H0529: 1 | 0520: 1, L0762: 1 | 0763: 1, L0770: 1 | 0374: 1, L0764: 1 | 0768: 1, L0386: 1 | 0803: 1, L0524: 1 | 0806: 1, L0379: 1 | 0527: 1, L0657: 1 | 0382: 1, L0809: 1 | L0788: 1, L0663: 1, | S0052: 1, S0374: 1 |
| | Š | 王 | | H | 王 | <u></u> | H | Ē | <u>I</u> | <u> </u> | <u>E</u> | H | <u> </u> | H | H | H | Ē | H | <u>X</u> | <u> </u> | 크 | 7 | <u> </u> | D | J | .2 | <u> </u> | <u>D</u> | Š |
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|--|-----------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|------------------------|----------|----------|------------------|-------------------|----------|-----------|-------------------|-------------------|-------------------|---------------------|
| H0691: 1, H0682: 1, H0435: 1, H0659: 1, S0328: 1, S0330: 1, S0152: 1, H0436: 1, L0611: 1, S0027: 1, S0028: 1, L0747: 1, L0779: 1, L0780: 1, L0731: 1, L0608: 1, S0026: 1, H0653: 1, S0192: 1, S0194: 1, H0422: 1 and S0384: 1. | | | | L0766: 2, H0660: 2, | L0748: 2, L0740: 2, | H0328: 1, L0769: 1, | L0651: 1, L0653: 1, | H0593: 1 and S0126: 1. | | | | | | | | | | H0620: 2, S0022: 2, |
| | | Glu-22 to Glu-30, | Lys-42 to Glu-51. | Pro-7 to Ser-36, | Cys-49 to Pro-57, | Pro-85 to Ala-91, | Gly-97 to Pro-109. | | | | Tyr-1 to Gly-39, | Ala-41 to Tyr-67. | | | Ser-49 to Asp-56; | Arg-64 to Ile-71, | Pro-80 to Ile-89. | His-10 to Asp-20, |
| | 3569 | 3570 | | 3571 | | | | | 3572 | 3573 | 3574 | | 3575 | 3576 | 3577 | | | 3578 |
| | 168 - 335 | 62 - 256 | | 3 - 440 | | | | | 1 - 279 | 1 - 102 | 3 - 203 | | 1 - 225 | 333 - 560 | 3 - 269 | | | 339 - 599 |
| | 1394 | 1395 | | 1396 | | | | | 1397 | 1398 | 1399 | | 1400 | 1401 | 1402 | | | 1403 |
| | HOCPR33R | HOCPR53R | | HOCPR55R | | | | | HOCPR77R | HOCPR82R | HOCPS35R | | HOCPU03R | HOCPU30R | HOCPU68R | | | HOCPV29R |
| | HOCPR33 | HOCPR53 | | HOCPR55 | | | | | HOCPR77 | HOCPR82 | HOCPS35 | | HOCPU03 | HOCPU30 | HOCPU68 | | | HOCPV29 |

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|---------------------|--|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
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| L0438: 2, T0002: 1, | H0393: 1, H0370: 1, H0050: 1, H0373: 1. | H0051: 1, H0028: 1, | S0036: 1, H0551: 1, | H0059: 1, S0150: 1, | L0662: 1, S0126: 1, | H0435: 1, H0660: 1, | S0044: 1 and H0694: 1. | L0803: 7, L0439: 5, | L0809: 4, L0749: 4, | L0776: 3, H0520: 3, | L0748: 3, L0750: 3, | H0543: 3, S0440: 2, | L0794: 2, L0804: 2, | L0438: 2, H0547: 2, | H0660: 2, S0406: 2, | L0743: 2, L0777: 2, | L0759: 2, H0556: 1, | H0656: 1, S0358: 1, | S0360: 1, H0637: 1, | H0580: 1, H0741: 1, | H0733: 1, H0619: 1, | H0415: 1, H0600: 1, | H0587: 1, H0486: 1, | H0013: 1, H0427: 1, | S0474: 1, H0581: 1, | H0263: 1, H0457: 1, | H0615: 1, H0428: 1, | H0644: 1, H0032: 1, |
| Asn-27 to Gly-33. | | | | | | | | | | | | | , | | | | | | | | | | | | | | | |
| | | | | | | | | 3579 | | | | | | | | | | | | | | | | | | | | |
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| S0036: 1, H0591: 1, H0634: 1, H0264: 1, S0438: 1, S0422: 1, S0002: 1, L0520: 1, L0766: 1, L0649: 1, L0775: 1, L0649: 1, L0775: 1, L0655: 1, L0775: 1, H0655: 1, H0639: 1, H0682: 1, H0670: 1, H0521: 1, S0013: 1, H0631: 1, S0206: 1, L0756: 1, L0731: 1, L0608: 1, S0194: 1 and S0424: 1. | L0752: 19, L0747: 12, L0776: 6, L0750: 5, L0608: 5, L0774: 4, L0805: 4, L0438: 4, L0740: 4, S0210: 3, L0600: 3, S0358: 2, S0222: 2, H0068: 2, H0040: 2, H0413: 2, L0770: 2, L0769: 2, L0772: 2, L0794: 2, L0773: 2, L0794: 2, L0783: 2, L0439: 2, L0745: 2, L0755: 2, | LU/58: 2, LU39U: 2, |
| | Ile-53. to Trp-63, Ala-80 to Gly-89, Arg-134 to Gln-139. | |
| | 3581 | |
| · | 2 - 502 | |
| | 1406 | |
| | HOCPW56 HOCPW56R | |
| · | HOCPW72 | |

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| H0170: 1, H0341: 1 | H0483: 1, S0420: 1, | 410: 1, S0300: 1, | 411: 1, H0549: 1, | 522: 1, H0013: 1, | 156: 1, S0010: 1, | 052: 1, H0545: 1, | 006: 1, L0471: 1, | 012: 1, S0336: 1, | 428: 1, T0006: 1, | H0606: 1, H0674: 1, | 455: 1, S0036: 1, | 038: 1, H0063: 1, | H0494: 1, H0560: 1, | 520: 1, L0762: 1, | 521: 1, L0662: 1, | 767: 1, L0803: 1, | L0653: 1, L0659: 1, | 790: 1, L0791: 1, | 566: 1, H0144: 1, | 374: 1, H0689: 1, | H0690: 1, H0659: 1, | H0660: 1, H0648: 1, | 578: 1, H0134: 1, | 214: 1, L0749: 1, | L0731: 1, L0361: 1, | 106: 1, S0011: 1, | H0653: 1, S0192: 1, | 242: 1, S0194: 1 a | H0422: 1. |
| OH | ÕΗ | 70S | HO | 100 | HOH | OH | ON. |)H | OH) | OH | 10 | ЮH | OH HO | <u> </u> | <u>10</u> | <u>10</u> | <u>10</u> | <u> </u> | <u>ro</u> | SO3 | ЮH | ЮH | 20S | | <u>101</u> | SO1 | ŎH | 202 | 0H |
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| | H0046: 9, L0777: 3, | S0376: 2, H0050: 2, | S0344: 2, S0126: 2, | Tyr-196 to Gly-205. H0670: 2, S0152: 2, | H0521: 2, H0542: 2, | H0543: 2, H0341: 1, | S0354: 1, S0358: 1, | S0408: 1, H0619: 1, | H0393: 1, H0592: 1, | H0590: 1, S0474: 1, | H0546: 1, H0551: 1, | H0494: 1, S0440: 1, | L0663: 1, H0660: 1, | H0672: 1, H0631: 1, | S0028: 1, L0757: 1, | S0434: 1, L0581: 1 and | L0593: 1. | | H0617: 5, L0769: 4, | L0776: 4, L0751: 4, | L0747: 4, L0774: 3, | H0685: 2, H0657: 2, | H0483: 2, H0486: 2, | H0052: 2, H0674: 2, | H0494: 2, L0775: 2, | L0518: 2, H0682: 2, | L0603: 2, H0170: 1, | S6024: 1, S0116: 1, | H0664: 1, H0306: 1, |
| | Pro-42 to Ser-59, | Asp-159 to Asn- | 168, | Tyr-196 to Gly-205. | • | | | | | | | | | | | | | Glu-24 to Ser-29. | | | | | | | | | | | |
| 3582 | 3583 | | | | | | | | | | , | | | | | | | 3584 | 3585 | | | | | | | | | | |
| 1 - 297 | 7 - 694 | | | | | | | | | | | | | | | | ٠ | 99 - 296 | 266 - 442 | | | | | | | | | | |
| 1407 | 1408 | | | | | _ | - | | | | | | | | | | | 1409 | 1410 | | | | | | | | | | |
| HOCPW68 HOCPW68R | HOCPW81R | | | | | | | | | | | | | | | | | HOCPX01R | HOCPY70R | | | | | | | | | | |
| HOCPW68 | HOCPW81 | | | | | | | | | | | | | | | | | HOCPX01 | HOCPY70 | | | | | | | | | | |

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| 80420: 1, 80376: 1, | S0360: 1, S0007: 1, | S0300: 1, S0222: 1, | S6014: 1, H0250: 1, | .0021: 1, L0022: 1, | S0049: 1, H0309: 1, | H0150: 1, H0009: 1, | S0051: 1, H0188: 1, | F0006: 1, H0604: 1, | H0673: 1, H0169: 1, | H0087: 1, L0065: 1, | L0763: 1, L0638: 1, | .0773: 1, L0662: 1, | .0768: 1, L0766: 1, | .0649: 1, L0651: 1, | L0657: 1, L0540: 1, | .0783: 1, L0809: 1, | .0530: 1, L0787: 1, | L0789: 1, L0665: 1, | S0374: 1, S0126: 1, | H0684: 1, H0660: 1, | H0539: 1, S0380: 1, | H0576: 1, L0741: 1, | .0742: 1, L0749: 1, | .0750: 1, L0779: 1, | .0759: 1, S0031: 1 and | .0590: 1. | | | S0358: 45, S0360: 30, |
| S | S | S | S | | S | <u>i-l-i</u> | S | | <u>iii</u> | <u> </u> | <u>, e</u> -l | | <u> </u> | | <u></u> | <u>-</u> | <u> </u> | | <u>8</u> | <u>illi</u> | <u>الحام</u> | <u>i-1-i</u> | <u></u> | | | | Pro-93 to Arg-99, | Ser-143 to Val-149. | Ser-25 to Ser-30. |
| | | | • | | | | | | | | | | | | | | | | | | | , | | | | | 3586 | | 3587 |
| | _ | | | , | • | | | | | | | | | | | • | | | | | | | | - , | | | 2 - 460 | | 352 - 543 |
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| S0374: 22, S0444: 21, | L0662: 21, S0408: 19, | L0666: 15, S0380: 14 | 664: 11, L0665: | S0026: 11, H0059: 10 | S0328: 10, S0330: 10 | H0251: 9, L0809: 8, | H0670: 8, S0378: 8, | H0661: 7, S0354: 7, | 440: 7, L0775: 7, | 659: 7, L0663: 7, | H0672: 7, S0406: 7, | S0442: 6, S0414: 6, | 657: 6, L0774: 5, | H0659: 5, L0754: 5, | S0434: 5, S0376: 4, | 483: 4, L0532: 4, | H0547: 4, H0660: 4, | .0602: 4, L0592: 4, | S0460: 4, S0007: 3, | H0529: 3, L0520: 3, | .0803: 3, H0648: 3, | S0404: 3, L0748: 3, | 747: 3, L0750: 3, | .0759: 3, H0445: 3, | .0608: 3, S0424: 3, | H0663: 2, H0664: 2, | H0580: 2, L0444: 2, | H0156: 2, H0014: 2, | H0615: 2, H0688: 2, |
| .0S | <u>91</u> | <u>T</u> | 2 | SOS | SO. | HO | OH HO | HO | <u>S</u> O | <u>01</u> | HO | <u>20</u> 5 | <u>3</u> | OH | SÓ. | <u>01</u> | HO | <u> </u> | <u>20</u> 5 | HO | <u>ro</u> | <u>20</u> 5 | 07 | ro. | <u>T</u> | OH HO | HO | HO | HO |
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| H0039: 2, H0644: 2, | H0617: 2, H0032: 2, | H0673: 2, L0763: 2, | 646: 2, L0804: 2 | L0776: 2, H0627: 2, | 777: 2, L0758: 2 | 0362: 2, H0506: 2 | 615: 1, H0685: 1 | 656: 1, L0778: 1 | .0785: 1, H0341: 1 | 1, H0662: 1 | H0402: 1, S0356: 1 | 70008: 1, S0476: 1 | H0351: 1, H0299: 1 | 486: 1, H0013: 1 | J0021: 1, T0082: 1 | H0581: 1, H0421: 1 | 235: 1, H0596: 1 | 040: 1, H0178: 1 | H0563: 1, H0012: 1 | H0328: 1, H0031: 1 | 068: 1, H0135: 1 | T0067: 1, H0264: 1 | 488: 1, H0100: 1 | H0494: 1, S0352: 1 | 448: 1, S0450: 1, | H0509: 1, S0472: 1 | H0647: 1, H0695: 1 | .0764: 1, L0765: 1 | .0767: 1, L0768: 1 |
|)H | OH) |)H | <u>3</u> | ន្ន | <u>3</u> | <u>3</u> | <u>3</u> | OH. | <u>2</u> | OH | OH. | <u>2</u> | OH. | OH OH | <u>3</u> | OH, | OH) | ន្ន | OH OH | 田田 | OH. | <u>170</u> | OH) | HO | SO. | HO | 0H | <u>ro</u> | LO |
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| L0364: 1, L0766: 1, L5568: 1, L0552: 1, L0376: 1, L0553: 1, L0655: 1, L0529: 1, H0144: 1, H0520: 1, H0690: 1, H0682: 1, H0684: 1, H0435: 1, H0658: 1, S0392: 1, H0678: 1, L0744: 1, L0779: 1, L0749: 1, L0779: 1, L0755: 1, S0308: 1, H0707: 1, L0596: 1, L0593: 1 and S0384: 1. | | | | | | | | | | | | | _ | | |
| | | | | Met-1 to Leu-6, | Gly-19 to Lys-26, | Ala-32 to Lys-38, | Ala-89 to Leu-94, | Gly-134 to Val-141. | Met-36 to Pro-42, | Pro-49 to Thr-55, | Leu-104 to Met-110, | Trp-112 to Asn-117, | Glu-122 to Tyr-134, | Gln-142 to Ser-148, | Leu-174 to Tyr-180. |
| | 3588 | 3589 | 3590 | 3591 | | | | | 3592 | | | | _ | | |
| | 1 - 384 | 13 - 276 | 3 - 455 | 3 - 473 | | | | | 1 - 588 | | | | | | |
| | 1413 | 1414 | 1415 | 1416 | | | | | 1417 | | | | | | |
| | HOCQA26 HOCQA26R | HOCQA37R | HOCQA86R | HOCQB18 HOCQB18R | | | | | HOCQB48 HOCQB48R | 1 | | | | | |
| | HOCQA26 | HOCQA37 | HOCQA86 | HOCQB18 | | | | | HOCQB48 | , | | | | | |

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| L0766: 6, L0752: 5, | L0794: 4, H0039: 3. | H0622: 3, S0440: 3, | L0770: 3, L0809: 3, | H0547: 3, L0747: 3, | S0356: 2, H0587: 2, | H0427: 2, H0156: 2, | H0015: 2, H0031: 2, | L0771: 2, L0662: 2, | L0768: 2, L0804: 2, | L0659: 2, L0666: 2, | L0664: 2, L0438: 2, | H0660: 2, L0740: 2, | L0754: 2, L0745: 2, | L0749: 2, L0731: 2, | L0593: 2, H0624: 1, | H0657: 1, H0656: 1, | H0370: 1, H0438: 1, | T0040: 1, L0586: 1, | T0114: 1, H0036: 1, | S0010: 1, H0052: 1, | H0545: 1, H0050: 1, | H0014: 1, H0373: 1, | L0163: 1, H0051: 1, | H0071: 1, T0010: 1, | H0030: 1, H0316: 1, | H0598: 1, H0090: 1, | S0038: 1, H0561: 1, | H0509: 1, H0130: 1, | H0633: 1, S0002: 1, |
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| 3593 | | | | | | | | | | | | | | | | | • | | | | | | | _ | | | | | |
| 1 - 237 | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | |
| 1418 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HOCOC57 HOCOC57R | , | | | | | | | | | | | | | | | | • | | | | | | | | | | | | |
| HOCQC57 | , | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| L0500: 1, L0761: 1, L0764: 1, L0773: 1, L0649: 1, L0375: 1, L0805: 1, L0653: 1, L0544: 1, L0545: 1, L0792: 1, L0663: 1, L0665: 1, H0670: 1, H0666: 1, H0521: 1, L077: 1, L0439: 1, L077: 1, L0755: 1, L077: 1, L0596: 1, L0589: 1, L0592: 1, H0216: 1, H0542: 1, H0216: 1, H0542: 1, | | | H0556: 2, H0519: 2, S0116: 1, H0370: 1, H0063: 1, L0800: 1, L0803: 1, L0383: 1, L0789: 1, H0659: 1, H0665: 1, L0777: 1 and H0665: 1 | L0748: 49, L0766: 22, H0457: 12, L0439: 12, H0581: 11, L0659: 11, L0754: 11, L0745: 10, L0662: 9, L0665: 9, |
| | Thr-21 to Gly-28, Lys-36 to Gly-43, Ala-73 to His-85. | | Gly-70 to Gly-79. | |
| | 3594 | 3595 | 3596 | 3597 |
| | 216 - 521 | 2 - 529 | 3 - 335 | 290 - 550 |
| | 1419 | 1420 | 1421 | 1422 |
| | носос71 носос718 | | l . | носор38R |
| | носос71 | HOCQD10 | носор19 | носорз8 |

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| H0710: 9, H0556: 8, | .0666: 8, H0521: 8, | .0751: 8, L0758: 8, | .0592: 8, H0486: 7, | H0318: 7, L0774: 7, | .0664: 7, S0360: 6, | H0510: 6, L0731: 6, | H0423: 6, H0638: 5, | H0580: 5, H0427: 5, | H0050: 5, H0271: 5, | ,0800: 5, H0670: 5, | H0552: 5, L0581: 5, | H0506: 5, H0402: 4, | 0358: 4, H0179: 4, | L0768: 4, L0803: 4, | .0438: 4, H0547: 4, | H0658: 4, S0328: 4, | 10555: 4, H0436: 4, | .0747: 4, L0750: 4, | .0777: 4, L0759: 4, | .0593: 4, S0134: 3, | H0657: 3, H0663: 3, | H0305: 3, S0420: 3, | H0619: 3, H0635: 3, | H0098: 3, H0575: 3, | S0003: 3, H0264: 3, | H0413: 3, H0623: 3, | H0494: 3, H0641: 3, | .0763: 3, L0667: 3, | .0794: 3, L0775: 3, |
| <u> </u> | ᆜ | ᆚ | <u>.</u> | <u> </u> | <u>. </u> | <u>æ</u> | <u>æ</u> | <u> </u> | <u> </u> | 7 | <u>#</u> | <u> </u> | <u> </u> | 7 | <u> </u> | <u> </u> | <u> </u> | 7 | <u>ਹ</u> | | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u>X</u> | <u> </u> | <u></u> | <u> </u> | ı |
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| 0806: 3, | 0776: 3, | 0519: 3, | 0330: 3, |)404: 3, | 0752: 3, | 0542: 3, |)282: 2, | 0356: 2, | 132: 2, | 0431: 2, | 0013: 2, | 0280: 2, | 0599: 2, | 0014: 2, | 0266: 2, | 0687: 2, | 0634: 2, | 0042: 2, |)646: 2, |)529: 2, |)638: 2, | 372: 2, |)641: 2, |)804: 2, |)606: 2, |)663: 2, | 565: 2, | 380: 2, | 3014: 2, |
|---------------------|--------------|---------------------|---------------------|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------|-------------|-------------|-------------|-------------|---------------------|---------------------|---------------------|--------------|---------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| L0651: 3, L0806: 3, | L0653: 3, L0 | L0655: 3, H0519: 3, | H0690: 3, S0330: 3, | L0602: 3, S(| L0779: 3, L0752: 3, | L0755: 3, H0542: 3, | S0114: 2, S0282: 2, | H0661: 2, S0356: 2, | S0376: 2, S0132: 2, | H0411: 2, H0431: 2, | H0586: 2, H0013: 2, | H0069: 2, S0280: 2, | L0021: 2, H | H0046: 2, H | H0051: 2, H | H0416: 2, H | H0316: 2, H | H0551: 2, T0042: 2, | S0440: 2, H0646: 2, | S0002: 2, H0529: 2, | L0769: 2, L0 | L0761: 2, L0372: 2, | L0646: 2, L0641: 2 | L0648: 2, L0804: 2, | L0784: 2, L0606: 2, | L0527: 2, L0663: 2, | S0374: 2, L0565: 2, | H0711: 2, S0380: 2, | H0696: 2, S3014: 2, |
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| .0744: 2, L0740: 2, | 746: 2, L0757: 2, | H0445: 2, L0591: 2, | H0543: 2, H0422: 2, | 220: 1, H0222: 1, | H0685: 1, S0430: 1, | H0650: 1, L0808: 1, | 16: 1, S0212: 1, | S0001: 1, H0662: 1, | 459: 1, S0418: 1, | 108: 1, H0393: 1, | 717: 1, H0369: 1, | 261: 1, H0392: 1, | 409: 1, H0574: 1, | 532: 1, L0623: 1, | 39: 1, T0109: 1, | 250: 1, H0036: 1, | 74: 1, T0071: 1, | 421 : 1, S0049: 1, | H0052: 1, H0309: 1, | 204: 1, H0597: 1, | H0544: 1, H0546: 1, | 024: 1, H0200: 1, | 071: 1, T0010: 1, | H0083: 1, H0355: 1, | 18: 1, S0250: 1, | 339: 1, L0483: 1, | H0031: 1, H0553: 1, | H0644: 1, H0182: 1, | H0032: 1, H0388: 1, |
| L07 | L07 | H0⁄ | HO: | HO |)OH |)OH | S01 | 00S | HO4 | <u>S04</u> | <u> </u> | H02 | H04 | 90H | T00 | H02 | 804 | H04 |)OH | H02 | SOH , | 00H |)OH |)OH | 803 |)OH |)OH | 90H | HOC |
| | | | | | • | | | | | | - | | | | - | | | | | | | | | | | | | | |
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| H0040: 1, H0380: 1, | H0280: 1, H0560: 1, | H0561: 1, L0065: 1, | H0652: 1, S0426: 1, | L0369: 1, L0639: 1, | L0637: 1, L0772: 1, | L0642: 1, L0765: 1, | .0378: 1, L0805: 1, | .0607: 1, L0629: 1, | .0384: 1, L0647: 1, | L0789: 1, L0790: 1, | S0052: 1, S0216: 1, | H0144: 1, H0593: 1, | 30126: 1, H0689: 1, | H0682: 1, H0435: 1, | H0659: 1, H0660: 1, | H0648: 1, H0672: 1, | H0518: 1, S0152: 1, | 30406: 1, H0187: 1, | H0576: 1, S0392: 1, | H0478: 1, H0345: 1, | S0027: 1, L0756: 1, | S0031: 1, H0444: 1, | H0707: 1, S0434: 1, | .0599: 1, S0011: 1, | H0668: 1, H0667: 1, | S0196: 1 and L0697: 1 | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------------------|-----------------|-------------------|-------------------|
| | | | | | | | | | | | <u> </u> | | <u> </u> | - | p-a-mi | | | . 51 | | | | <u> </u> | | | | | Ala-1 to Gly-8, | Leu-26 to Ser-40, | Pro-57 to Leu-95. |
| | | | | | | | | | | | | | | | | | | | | | | | - | | • | | 3598 | | |
| | | | | | | | | | | | | _ | | | | | | | | | · · · | | | • | | | 1 - 315 | • | |
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| - 10 m da - 10 d d d d | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------------------|-------------------|-----------|-----------------------|-----------------------|-----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S0126: 23, H0038: 16, | S0372: 15, H0550: 12, | H0031: 12, H0545: 10, | L0659: 10, S0360: 9, | L0662: 9, L0757: 9, | L0758: 9, H0551: 8, | S0322: 8, H0431: 7, | L0666: 7, L0750: 7, | H0486: 6, H0546: 6, | S0440: 6, L0776: 6, | H0549: 5, H0620: 5, | L0664: 5, H0593: 5, | H0672: 5, H0539: 5, | S0380: 5, H0555: 5, | L0747: 5, S0358: 4, | S0007: 4, H0409: 4, | S0010: 4, H0039: 4, | H0622: 4, H0616: 4, | L0769: 4, L0641: 4, | L0655: 4, H0696: 4, | L0731: 4, S0040: 3, | S0212: 3, S0418: 3, | S0045: 3, S0280: 3, | H0012: 3, H0090: 3, |
| Arg-11 to Arg-20, Glu-61 to Ser-66, | 110-114 (0 7-14-12). | Glu-58 to Arg-63. | | Lys-21 to His-26, | Arg-47 to Val-55, | Ser-65 to Gly-70, | Ala-76 to Gly-81. | • | | | | | | | | | | | | | | | | | | | , |
| 3599 | 3600 | 3601 | 3602 | 3603 | | | | | | | | | | | | | | | | | | | | | | | |
| 38 - 475 | 3 - 410 | 3-317 | 144 - 335 | 1 - 324 | | | | | | | | | | | | | | - | | | | | | | | | |
| 1424 | 1425 | 1426 | 1427 | 1428 | | | | | | | | | | | | | | | | | | | | | | | |
| носор45 носор45к | HOCOE35R | HOCQG94 HOCQG94R | HOCQH81R | HOCQI31R | , | | | | | | | | | | | | | | | | | | | | | | |
| носор45 | HOCOE35 | HOCQG94 | HOCQH81 | HOCQI31 | | | | | | | | | | | | | | | | | | | | | | | |

| 0771: 3, | 0651: 3, | 0690: 3, | 0328: 3, | 0295: 2, | 0662: 2, | 354: 2, | 0717: 2, | 10333: 2, | 0257: 2, | 0575: 2, | 0544: 2, | 0014: 2, | 0266: 2, | 0003: 2, | 0615: 2, | 0412: 2, | 0016: 2, | 0210: 2, | 0520: 2, | 0796: 2, | 0764: 2, | 0790: 2, | 0689: 2, | 0406: 2, | 028: 2, | 0740: 2, |)604: 2, | 1192: 2, | 7785: 1, |
|--------------------|-------------|------------------|-------------|---------------------|---------------------|---------------------|--------------|---------------------|---------------------|------------------|---------------------|---------------------|---------------------|---------------------|-------------|---------------------|---------------------|---------------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------|------------------|-----------------|
| L0637: 3, L0771: 3 | L0775: 3, L | L0653: 3, H0690: | H0660: 3, S | S0044: 3, H0295: 2, | T0049: 2, H0662: 2, | S0356: 2, S0354: 2, | S0376: 2, L(| H0441: 2, H0333: 2, | H0574: 2, H0257: 2, | H0485: 2, H0575: | H0251: 2, H0544: 2, | L0471: 2, H0014: 2, | S0051: 2, H0266: 2, | H0687: 2, S0003: 2, | H0328: 2, H | T0067: 2, H0412: 2, | H0059: 2, S0016: 2, | H0647: 2, S0210: 2, | L0598: 2, L(| L0638: 2, L(| L0772: 2, L(| L0519: 2, L0790: 2, | H0519: 2, H0689: 2, | H0710: 2, S0406: 2, | S3014: 2, S0028: 2, | S0206: 2, L0740: 2, | S0031: 2, LC | L0601: 2, S0192: | S0342: 1, L0785 |
| | ***** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| S0116: 1, S0298: 1, | H0663: 1, S0420: 1, | S0410: 1, S0468: 1, | H0369: 1, H0453: 1, | H0370: 1, H0392: 1, | H0602: 1, H0587: 1, | T0039: 1, H0013: 1, | H0004: 1, H0052: 1, | H0309: 1, H0046: 1, | H0041: 1, H0081: 1, | H0011: 1, H0049: 1, | T0079: 1, H0375: 1, | S0250: 1, S0214: 1, | H0252: 1, H0428: 1, | T0006: 1, H0032: 1, | H0708: 1, H0316: 1, | H0598: 1, H0400: 1, | H0100: 1, H0494: 1, | L0475: 1, S0014: 1, | S0015: 1, H0625: 1, | S0382: 1, H0646: 1, | L0762: 1, L0763: 1, | L0630: 1, L0646: 1, | L0768: 1, L0649: 1, | L0806: 1, L0656: 1, | L0809: 1, L0647: 1, | L0663: 1, L0665: 1, | S0374: 1, H0691: 1, | H0547: 1, H0682: 1, | H0521: 1, S0027: 1, |
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| L0748: 1, L0756: 1, L0777: 1, L0752: 1, L0755: 1, H0343: 1, H0707: 1, L0605: 1, | H0668: 1, S0196: 1 and H0506: 1. | H0046: 12, L0771: 7, | L0774: 3, L0651: 3, I 0806: 3 1 0666: 3 | L0565: 3, L0748: 3, | S0444: 2, S0408: 2, | H0393: 2, L0372: 2, | L0662: 2, L0766: 2, | L0659: 2, L0664: 2, | L0744: 2, L0731: 2, | H0294: 1, S0442: 1, | S0278: 1, H0549: 1, | L0021: 1, H0085: 1, | H0234: 1, H0596: 1, | H0597: 1, H0546: 1, | H0024: 1, S0003: 1, | H0252: 1, H0383: 1, | H0674: 1, H0068: 1, | H0487: 1, H0413: 1, | T0069: 1, H0100: 1, | H0494: 1, H0625: 1, | S0352: 1, L0761: 1, | L0772: 1, L0646: 1, | L0800: 1, L0764: 1, | L0773: 1, L0794: 1, |
| | - | Leu-16 to Pro-22, | Val-30 to Asp-36. | | | | | | | | | | | | | | | | | | | | | |
| | • | 3604 | | | | | | | | | | | | | | | | | | | | | | |
| | | 61 - 546 | | | | | | | | | | | | | | | | | | | | | | |
| | | 1429 | | | | | | | | | | | | | | | | | | | | | | |
| | | HOCQ135R | | | | | | | | | | | | | | | | | | | | | | |
| | | HOCQJ35 | | | | | | | | | | | | | | | | | | | | | | |

| L0649: 1, L0803: 1, L0805: 1, L0653: 1, L0515: 1, L0367: 1, L0665: 1, S0374: 1, H0684: 1, H0660: 1, S0328: 1, S0044: 1, S0404: 1, L0740: 1, L0747: 1, L0757: 1, L0758: 1, S0260: 1 and S0276: 1. | | | H0328: 1 and H0435: | L0493: 4, L0794: 3, H0497: 2, H0038: 2, L0766: 2, L0809: 2, L0779: 2, L0777: 2, L0759: 2, L0601: 2, H0170: 1, S0114: 1, H0341: 1, H0125: 1, S0046: 1, H0592: 1, H0587: 1, H0559: 1, H0156: 1, H0328: 1, H0616: 1, H0328: 1, H0538: 1, H0529: 1, |
|---|---|----------|---------------------|--|
| , , | Gly-2 to Gly-12, Gly-14 to Asn-28, Met-32 to Gly-49, Lys-54 to Phe-76. | | Ala-1 to Ser-8. | Gln-1 to Pro-16. |
| · | 3605 | 3606 | 3607 | 3608 |
| | 3 - 230 | 2 - 76 | 234 - 395 | 266 - 484 |
| | 1430 | 1431 | 1432 | 1433 |
| | НОСОМ24 НОСОМ24К | HODAF78R | HODBT55R | HODCT68R |
| · | HOCQM24 | HODAF78 | HODBT55 | HODCT68 |

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| L0775: 1, L0666: 1, | H0659: 1, H0518: 1, | L0741: 1, L0439: 1, | L0747: 1, L0593: 1, | L0594: 1, H0665: 1 and | H0667: 1. | AR089: 19, AR104: | 18, AR060: 12, AR096: | 7, AR055: 4, AR061: | 3 | L0751: 29, H0549: 17, | H0550: 17, L0666: 9, | L0747: 8, H0689: 7, | H0690: 7, H0682: 7, | H0615: 6, H0670: 6, | H0328: 5, H0150: 4, | H0660: 4, S0330: 4, | S0044: 4, L0362: 4, | H0597: 3, H0688: 3, | L0764: 3, L0657: 3, | L0809: 3, L0753: 3, | L0758: 3, L0759: 3, | H0431: 2, H0046: 2, | T0067: 2, H0059: 2, | H0647: 2, L0774: 2, | L0805: 2, L0783: 2, | L0438: 2, H0593: 2, | H0648: 2, H0672: 2, | S0328: 2, S0404: 2, | L0744: 2, L0779: 2, |
| | | | | | | | | | | | | | • | | | | | • | | | | | | | | | | | |
| | | | ٠ | | | 3609 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 2 - 139 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1434 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | HODCZ52R | | | | | | | | | | | | | | | | | | | - | | | | |
| | | | | | | HODCZ52 | | | | | | | | | | | | | | | | | • | | | | | , | |

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|--|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
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| S0436: 2, H0662: 1, S0442: 1, S0444: 1, | 50408: 1, 50007: 1, H0461: 1, H0085: 1, | H0009: 1, S0024: 1, | H0604: 1, H0424: 1, | H0169: 1, H0674: 1, | L0520: 1, L5569: 1, | L0803: 1, L0804: 1, | L0775: 1, L0658: 1, | L0634: 1, L0542: 1, | L0528: 1, L2269: 1, | L0663: 1, L0665: 1, | H0684: 1, H0659: 1, | H0658: 1, S0380: 1, | S0406: 1, H0555: 1 and | L0780: 1. | L0794: 4, L0803: 4, | H0328: 3, L0779: 3, | L0515: 2, L0809: 2, | H0144: 2, L0754: 2, | L0756: 2, L0759: 2, | H0171: 1, S0282: 1, | H0346: 1, S0222: 1, | H0441: 1, H0486: 1, | H0069: 1, H0052: 1, | H0544: 1, H0266: 1, | L0598: 1, L0638: 1, | L0766: 1, L0650: 1, |
| | | | | | | | | | | | | | | | Gly-7 to Glu-41. | • | | | | | | | | | | |
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| | | | | | | | | | | | | | | | 3 - 194 | | | | | | | | | | ; | |
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| | | | | | | | | | | | | | | | HODDI57R | | | | | | | | | | | |
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| L0774: 1, L0805: 1, L0776: 1, L0657: 1, L0559: 1, L0659: 1, L0543: 1, L0438: 1, H0682: 1, S0328: 1, L0745: 1, L0750: 1, L0777: 1, L0752: 1, L0758: 1, H0343: 1 and H0665: 1. | L0754: 20, L0759: 6, L0794: 4, H0615: 3, L0438: 3, S0126: 3, S0360: 2, H0411: 2, H0050: 2, H0163: 2, L0748: 2, L0747: 2, L0749: 2, L0780: 2, L0749: 2, L0780: 2, L0755: 2, H0595: 2, L0361: 2, H0170: 1, H0686: 1, H0638: 1, S0418: 1, S0358: 1, S0418: 1, L0586: 1, H0587: 1, H0099: 1, H0587: 1, H0625: 1, S0210: 1, L0598: 1, L0667: 1, L0764: 1, L0667: 1, L0764: 1, L0669: 1, L0650: 1, L0649: 1, L0655: 1, |
| · | Leu-7 to Thr-16. |
| : | 3611 |
| | 11 - 295 |
| | 1436 |
| | HODEJ47R |
| | HODEJ47 |

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|--|----------|---------------------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|-------------------|----------|---------------------|---------------------|------------------------|-----------|-----------------|--|---------------------|---|
| L0789: 1, L0663: 1, H0144: 1, S0330: 1, S0028: 1, L0751: 1, L0750: 1, L0731: 1, L0758: 1 and L0605: 1. | | L0803: 7, L0439: 4, | .0663: 3, L0/49: 3, 10615: 2, L0769: 2, | L0794: 2, L0774: 2, | .0748: 2, L0777: 2, | .0752: 2, L0142: 1, | H0646: 1, L0767: 1, | .0804: 1, L0784: 1, | .0805: 1, L0789: 1, | L0666: 1, L0438: 1, | H0670: 1 and L0589: 1. | H0615: 1 and S0031: 1. | | | L0662: 2, H0615: 1, | L0761: 1, L0791: 1, | H0519: 1, L0752: 1 and | .0758: 1. | H0615: 2 | | H0328: 1 and H0615: | • |
| | | | | | H | | | <u>F-1</u> | <u>⊢</u> | _ | | Asn-1 to Ser-6, | Thr-22 to Asn-32. | | | | <u> </u> | | Ser-1 to Ser-9, | ייים אין | | |
| | 3612 | 3613 | | 7.00 | | | | | | | | 3614 | | 3615 | 3616 | | | | 3617 | 3618 | 3619 | |
| | 1 - 54 | 187 - 432 | | | | | | | | | | 349 - 444 | | 92 - 289 | 2 - 421 | | | | 153 - 347 | 370 - 546 | 374 - 568 | |
| | 1437 | 1438 | | | | | | | | | | 1439 | | 1440 | 1441 | | | | 1442 | 1443 | 1444 | |
| | HODEO42R | HODEP78R | | | | | | | | | | HODEQ42R | | HODER57R | HODES60R | | | | HODEU47R | HODEV69R | HODEW54 HODEW54R | |
| | HODEO42 | HODEP78 | | | | | | | | | | HODEQ42 | | HODER57 | HODES60 | | | | HODEU47 | HODEV69 | HODEW54 | |

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|------------------|---------------------------|---------------------------|----------|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | H0615: 2 and L0532: 1. | H0615: 4 and L0659: 1. | | L0747: 16, L0754: 10, | L0751: 7, L0757: 7, | H0657: 6, L0748: 6, | L0771: 5, H0659: 5, | L0740: 5, L0755: 5, | H0594: 4, L0744: 4, | H0341: 3, S0358: 3, | S0278: 3, H0333: 3, | H0615: 3, S0366: 3, | L0520: 3, L0775: 3, | L0517: 3, S0374: 3, | S0328: 3, L0731: 3, | H0136: 3, T0002: 2, | S0218: 2, S0116: 2, | S0354: 2, S0376: 2, | H0637: 2, S0045: 2, | H0370: 2, L0622: 2, | H0156: 2, H0599: 2, | H0545: 2, H0266: 2, | H0039: 2, H0617: 2, | H0132: 2, L0769: 2, | L0665: 2, H0672: 2, | H0539: 2, H0134: 2, | L0756: 2, L0752: 2, |
| | | | | Ala-9 to Asp-21, | Thr-31 to Arg-37. | | | | | | | | | | | | | | | | | | | | | | |
| 3620 | 3621 | 3622 | 3623 | 3624 | | | | | | | | | | | | | | | | | | | | | - | ; | , |
| 309 - 566 | 220 - 423 | 58 - 231 | 1 - 432 | 1 - 207 | | | | | | | | | | | | | | | | | | | | | | | |
| 1445 | 1446 | 1447 | 1448 | | | | | | | | | | | | | | | | | | | | | | | | |
| HODEW79 HODEW79R | HODEX45R | норех69 норех69к | HODEX79R | HODFC44 HODFC44RP | 8 | | | | | | | | - | | | | | | | | | | | | | | |
| HODEW79 | HODEX45 | нореже9 | HODEX79 | HODFC44 | | • | | | | | | | | • | | | | | | | | | • | | | | |

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| L0758: 2, H0624: 1, | H0170: 1, H0265: 1, | S6024: 1, H0656: 1, | H0255: 1, H0661: 1, | H0125: 1, H0192: 1, | S0418: 1, S0420: 1, | S0360: 1, H0580: 1, | H0393: 1, S0300: 1, | H0411: 1, H0369: 1, | H0261: 1, S0222: 1, | L0623: 1, S0280: 1, | H0618: 1, H0318: 1, | H0581: 1, H0421: 1, | L0738: 1, H0086: 1, | L0471: 1, H0024: 1, | H0082: 1, L0043: 1, | S0214: 1, H0031: 1, | H0673: 1, H0068: 1, | H0038: 1, H0634: 1, | H0087: 1, T0067: 1, | H0412: 1, H0100: 1, | H0512: 1, S0144: 1, | S0142: 1, S0344: 1, | S0422: 1, H0517: 1, | L0762: 1, L0763: 1, | L0761: 1, L0764: 1, | L0768: 1, L0766: 1, | L0649: 1, L0774: 1, | L0651: 1, L0776: 1, | L0655: 1, L0526: 1, |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | , |
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| L0518: 1, L0783: 1, L0809: 1, L0666: 1, L0663: 1, H0144: 1, H0593: 1, H0682: 1, H0648: 1, S0044: 1, H0214: 1, L0439: 1, L0749: 1, L0750: 1, L0753: 1, H0444: 1, H0445: 1, H0595: 1, L0581: 1, L0593: 1 and H0542: 1. | L0794: 3, L0776: 2, S0358: 1, H0615: 1, H0538: 1, L0662: 1, L0803: 1, L0805: 1, L0791: 1, L0663: 1, S0374: 1, H0658: 1 and L0758: 1. | | L0766: 2, H0328: 1 and H0615: 1. | | H0328: 1 and H0615: 1. | | | H0615: 2, H0370: 1, H0328: 1 and L0749: 1. |
|--|--|-----------|----------------------------------|--|--|-------------------|-------------------|---|
| | Ser-22 to Gln-38. | | | Phe-45 to Tyr-60, Arg-67 to Glu-74. | Pro-18 to Pro-23, Pro-37 to Val-42. | | Lys-69 to Asp-81. | |
| | 3625 | 3626 | 3627 | 3628 | 3629 | 3630 | 3631 | 3632 |
| | 3 - 281 | 296 - 433 | 293 - 409 | 2 - 259 | 97 - 225 | 1 - 69 | 16 - 324 | 1 - 165 |
| | 1450 | 1451 | 1452 | 1453 | 1454 | 1455 | <u> </u> | 1457 |
| | НОДЕДОВ НОВ НОВ НОВ НОВ НОВ НОВ НОВ НОВ НОВ Н | HODFE81R | HODFI68R | HODFJ14R | HODF152R | HODFK30 HODFK30RA | HODFK89R | HODFL50R |
| | НОДЕДЭО | HODFE81 | НОДЕЛ68 | HODFJ14 | HODFJ52 | HODFK30 | HODFK89 | HODFL50 |

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|-----------------|-----------|---------------------|--|---------------------|---------------------|---------------------|---------------------|----------------------------------|-------------------|-------------------|--------------------|-------------------|---------------------|------------------|-------------------|-------------------|---------------------|---------------------|---------------------|----------|-----------|----------|-----------------|--------------------|---------------------|
| | H0615: 2 | L0666: 3, H0615: 2, | S0116: 1, H0675: 1, H0012: 1, L0055: 1, | S0438: 1, L0763: 1, | L0667: 1, L0649: 1, | L0803: 1, L0804: 1, | L0659: 1, H0689: 1, | H0659: 1, L0752: 1 and S0026: 1. | | | | | | | | | | | | H0615: 2 | | | | H0328: 1, H0615: 1 | H0615: 3, H0693: 2, |
| Ala-2 to Trp-9. | | Glu-12 to Gly-27, | Gln-37 to Tyr-49. | | | | | | His-33 to Leu-39, | Gly-49 to Glu-56, | Ser-60 to Lys-143. | Leu-33 to Val-40, | Lys-144 to Glu-152. | His-1 to Lys-12, | Gln-17 to Leu-27, | Val-69 to Asp-76, | Asp-122 to Trp-128, | Asp-141 to Glu-146, | Ser-155 to His-164. | | | | Pro-1 to Asp-7. | | |
| 3633 | 3634 | 3635 | • | | | | | | 3636 | | | 3637 | | 3638 | | | | | | 3639 | 3640 | 3641 | 3642 | 3643 | 3644 |
| 304 - 393 | 251 - 565 | 1 - 195 | ٠ | | | | | | 11 - 439 | | | 1-519 | | 2 - 535 | | | | | | 84 - 512 | 372 - 695 | 2 - 130 | 291 - 467 | 7 - 168 | 64 - 210 |
| 1458 | 1459 | 1460 | | | | | | | 1461 | | | 1462 | | 1463 | | | | | | 1464 | 1465 | 1466 | 1467 | 1468 | 1469 |
| HODFL75R | HODFO16R | HODFO64R | | | - - | | | | HODFP51R | | | HODFQ19R | | HODFQ37 HODFQ37R | | | | | | HODFR72R | HODFU24R | ! | HODFV22R | HODFV60R | HODFV69R |
| HODFL75 | HODFO16 | HODFO64 | | | | | | | HODFP51 | | | НОРБО19 | - | НОБРО37 | | | | | | HODFR72 | HODFU24 | HODFU78 | HODFV22 | HODFV60 | HODFV69 |

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|---|------------------------|-----------|----------|-----------|---------------------|------------------------|-----------------|-------------------|----------|-------------------|-----------|------------------|-------------------|--------------------------------------|----------|---------------------|------------------------|-----------|---------------------|---------------------|-------------------|---------------------|---|-----------|
| H0266: 1, S0002: 1, L0790: 1, H0547: 1, S0152: 1, H0521: 1, H0696: 1, L0366: 1 | S0194: 1 and S0276: 1. | | | | H0615: 2, S0444: 1, | L0438: 1 and L0439: 1. | | | | | | | | | H0615: 2 | L0754: 2, L0756: 2, | H0615: 1, L0438: 1 and | L0747: 1. | L0741: 4, H0615: 2, | L0769: 2, L0793: 2, | | | | L0755: 1. |
| | | | | | Lys-8 to Tyr-26, | Thr-67 to Met-73. | Val-1 to Ser-9, | Gln-22 to Ser-29. | | Thr-14 to Asn-19. | • | Thr-7 to Ser-14, | Pro-28 to Gly-36. | His-8 to Gly-18, Phe-25 to Gly-30 | | | | | Lys-1 to Thr-7, | Ser-13 to Arg-33, | Val-56 to Lys-63, | Phe-143 to Thr-148. | • | |
| | | 3645 | 3646 | 3647 | 3648 | | 3649 | | 3650 | 3651 | 3652 | 3653 | | 3654 | 3655 | 3656 | | | 3657 | | | | | |
| | | 360 - 623 | 14 - 154 | 587 - 718 | 22 - 309 | | 186 - 308 | | 3-95 | 91 - 225 | 129 - 407 | 25 - 132 | | 36 - 128 | 2 - 166 | 127 - 300 | | | 2 - 583 | | | | | |
| | , | 1470 | 1471 | 1472 | 1473 | | 1474 | | 1475 | 1476 | 1477 | 1478 | | 1479 | 1480 | 1481 | | | 1482 | | | | | |
| | | HODFV79R | HODFV82R | HODFV95R | HODFY38R | | HODGA29R | | HODGB69R | HODGB78R | HODGE22R | норднзо норднзов | | HODGH43R | HODGH65R | HODGL65R | | | HODGN53R | | | | | |
| | | HODFV79 | HODFV82 | HODFV95 | HODFY38 | | HODGA29 | | HODGB69 | HODGB78 | HODGE22 | HODGH30 | | НОДСН43 | HODGH65 | HODGL65 | | | HODGN53 | | | | | |

| | H0615: 2 and L0779: 1. | | | | | | | | H0615: 3 and L0766: | 1. | | | L0805: 19, L0794: 13, | L0766: 12, L0740: 11, | L0747: 11, L0779: 11, | L0803: 8, H0521: 7, | L0439: 7, L0731: 7, | L0605: 7, S0474: 6, | S0422: 6, L0769: 6, | L0776: 5, L0665: 5, | L0748: 5, L0758: 5, | H0618: 4, S0010: 4, | L0771: 4, L0789: 4, | S3014: 4, H0341: 3, | H0615: 3, L0659: 3, | S0052: 3, L0438: 3, |
|------------------|---------------------------|-------------------|-------------------|----------|------------------|------------------|------------------|--|---------------------|----|-----------|------------------|-----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | Glu-23 to Val-28, | Arg-56 to Ser-64. | | | | Lys-1 to Gly-12, | Pro-25 to Thr-37, Ser-46 to Gly-51. | | | | | Pro-30 to Asn-35, | Arg-39 to Asn-57, | Ser-62 to Ile-67, | Glu-73 to Arg-81, | | | | | | | | | - | |
| 3658 | 3659 | 3660 | | 3661 | 3662 | 3663 | 3664 | | 3665 | | 3666 | 3667 | 3998 | | | | | | | | | | | | | |
| 361 - 561 | 1 - 348 | 2 - 193 | | 1 - 198 | 9 - 131 | 205 - 354 | 182 - 3 | | 358-513 | | 219 - 572 | 379 - 573 | 1 - 504 | | | | | | | | | | | | | |
| 1483 | 1484 | 1485 | | 1486 | 1487 | 1488 | 1489 | | 1490 | | 1491 | 1492 | 1493 | • | | | | | | | | | | | | |
| HODGO02 HODGO02R | НОДСООО НОДСОООВ | HODG021R | | HODGP53R | HODGQ52 HODGQ52R | HODGS83 HODGS83R | HODGW91 HODGW91R | | HODGX46 HODGX46R | | HODGX91R | HODGY90 HODGY90R | HODGZ63R | | | | | | | | | | | | | |
| HODGO02 | НОБСО09 | HODG021 | | HODGP53 | HODGQ52 | HODGS83 | HODGW91 | | HODGX46 | | HODGX91 | HODGY90 | HODGZ63 | | | | | | | | | | | | | |

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| | | | | | - | | | | | | • | | | | | | | | | | | | - | | - | | | - | |
| H0658: 3, H0436: 3, | .0752: 3, L0759: 3, | 50360: 2, S0222: 2, | H0574: 2, H0599: 2, | H0196: 2, H0050: 2, | H0266: 2, H0708: 2, | H0135: 2, H0038: 2, | 616: 2, L0804: 2, | H0144: 2, S0374: 2, | .0352: 2, H0682: 2, | .0743: 2, L0744: 2, | .0751: 2, L0749: 2, | 756: 2, S0424: 2, | 624: 1, T0002: 1, | H0657; 1, L0785: 1, | 671: 1, S0442: 1, | S0408: 1, H0733: 1, | S0278: 1, H0431: 1, | 013: 1, S0280: 1, | 581: 1, S0049: 1, | 10052: 1, H0251: 1, | .0040: 1, H0123: 1, | .0471: 1, H0630: 1, | 375: 1, S0003: 1, | H0252: 1, L0483: 1, | 006: 1, H0644: 1, | H0673: 1, S0036: 1, | H0163: 1, H0040: 1, | H0551: 1, H0412: 1, | H0413: 1, S0038: 1, |
| OH | <u>3</u> | <u>S</u> | HC | HC |)H | OH |)H |)H | <u>3</u> | 2 | <u>음</u> | 2 | OH | OH | OH | <u>80</u> | <u>S</u> 0 | OH HO | OH HO | <u>H</u> | <u>10</u> | <u>3</u> | OH HO | OH HO | <u>1</u> 0 | OH | OH HO | OH . | HO |
| | | | | | | | _ | | | | | | | | | | | <u> </u> | | | | | -11 | - | | | | | |
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| H0509: 1, H0131: 1, S0344: 1, L0598: 1, L0369: 1, L0763: 1, L0763: 1, L0667: 1, L0667: 1, L0667: 1, L0776: 1, L0775: 1, L0775: 1, L0809: 1, L0655: 1, L0669: 1, H0689: 1, H0684: 1, H0660: 1, H0672: 1, H0710: 1, H0522: 1, S0146: 1, S0028: 1, L0745: 1, L0750: 1, L0745: 1, H0653: 1, H0445: 1, L0750: 1, L0760: 1, H0653: 1, H0445: 1, H0653: 1, H0445: 1, H0653: 1, H0445: 1, H0653: 1, H0423: 1 and H0506: 1. | | | H0615: 2 | H0328: 1 and H0615: 1. | |
|--|----------|---------------------------------------|-------------------|---------------------------|---|
| | | Pro-8 to Asn-18, Gln-25 to Glu-30. | Tyr-33 to Tyr-38. | • | Glu-7 to Tyr-12, Glu-44 to Asp-49, Pro-57 to Gly-64, Leu-69 to Arg-74, |
| , | 3669 | 3670 | 3671 | 3672 | 3673 |
| | 12 - 179 | 3 - 134 | 14 - 205 | 190 - 366 | 3-515 |
| | 1494 | 1495 | 1496 | 1497 | 1498 |
| | HODGZ76R | НОДНД23К | HODHD64R | норнез6к | HODHE54R |
| · | HODGZ76 | норнр23 | HODHD64 | норнез6 | HODHES4 |

| | H0328: 1 and H0615: | | | | | | | | | | H0261: 1 and H0615: | | AR104: 14, AR096: | 13, AR089: 11, AR060: | 10, AR055: 6, AR061: | - 1 | H0615: 3, H0658: 2, | H0661: 1 and L0355: 1. | | | | | | | S0360: 9, L0642: 5, | L0752: 5, L0662: 4, | L0659: 4, L0666: 4, |
|-------------------|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------|-------------------|----------|---------------------|-------------------|---------------------------------------|-----------------------|----------------------|-----|---------------------|------------------------|-----------|-------------------|-------------------|---------------------|----------|-------------------|---------------------|---------------------|---------------------|
| Thr-76 to Tyr-86. | Lys-42 to Asp-48. | Glu-11 to Trp-17, | Val-22 to Ser-29, | Asp-45 to Lys-52. | Trp-12 to Ile-18, | Gln-40 to Leu-54. | Lys-17 to Ala-24. | Glu-1 to Gln-7, | Met-64 to Gly-69. | | Lys-9 to Ser-15, | Val-42 to Thr-50. | Phe-116 to Met-126. AR104: 14, AR096: | | 11.4 | · | | 1 | | Gln-40 to Glu-48, | Phe-68 to Arg-77, | Ile-108 to Glu-113. | | Arg-33 to Thr-38. | | <u> </u> | |
| | 3674 | 3675 | | | 3676 | | 3677 | 3678 | | 3679 | 3680 | | 3681 | - | | | | | 3682 | 3683 | | | 3684 | 3685 | 3686 | | |
| | 2 - 166 | 82 - 300 | | | 281 - 499 | | 71 - 238 | 2 - 292 | | 2 - 115 | 218 - 472 | | 31 - 594 | | | | | | 504 - 746 | 3 - 344 | | | 73 - 216 | 1 - 159 | 1 - 486 | | , |
| | 1499 | 1500 | | | 1501 | | 1502 | 1503 | | 1504 | 1505 | | 1506 | | | | | | 1507 | 1508 | | | 1509 | 1510 | 1511 | | |
| | HODHE88R | HODHG56R | | | HODHJ56R | | HODHK82R | HODHK86R | | HODIG29R | HODJL36 HODJL36RA | | HODJZ09R | | | | | | HODKB19R | HODKB82R | | • | HODKB89R | HODKB93R | HODKC29R | | |
| | НОДНЕ88 | норнд56 | | | HODHJ56 | | HODHK82 | НОДНК86 | | HODIG29 | HODJL36 | | HODIZ09 | - | | | | | HODKB19 | HODKB82 | | | HODKB89 | HODKB93 | HODKC29 | | |

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| | -4 | | | | | | | | | | | | | | | | | | | | | | | | | | - | | |
| S0007: 3, L0646: 3, | L0776:3, L0750:3, | H0662: 2, S0444: 2, | S0222: 2, L0483: 2, | L0764: 2, L0648: 2, | L0775: 2, L0665: 2, | H0648: 2, L0779: 2, | S0031: 2, S0110: 1, | H0638: 1, S0418: 1, | S0376: 1, S0408: 1, | L0717: 1, H0331: 1, | H0574: 1, S0414: 1, | H0492: 1, H0156: 1, | L0021: 1, S0049: 1, | H0310: 1, H0327: 1, | H0373: 1, T0010: 1, | S6028: 1, H0615: 1, | S0366: 1, S0036: 1, | H0038: 1, H0616: 1, | H0413: 1, T0041: 1, | H0494: 1, S0438: 1, | S0440: 1, H0509: 1, | S0142: 1, S0210: 1, | L0598: 1, L0762: 1, | L0640: 1, L0631: 1, | L0772: 1, L0766: 1, | L0551: 1, L0774: 1, | L0664: 1, H0547: 1, | S0126: 1, H0659: 1, | S0378: 1, S0152: 1, |
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| H0696: 1, S3014: 1, | L0439: 1, L0740: 1, | L0754: 1, L0756: 1, | L0780: 1, L0755: 1, | L0758: 1, S0434: 1 and | H0667: 1. | H0615: 2 | | | H0615: 2 and H0696: 1. | H0615: 2 and H0328: | | | H0615: 2 | | | | | | | | | | | | | |
| | | | | | | | Arg-11 to Ser-17, | Leu-51 to Pro-57. | Pro-5 to Asn-10. | Ser-18 to Ile-23. | Lys-12 to Ser-18. | • | | Asp-40 to Gly-45, | Leu-59 to Glu-67, | Lys-95 to Ile-105, | Asp-113 to Gly-118. | Ser-15 to Phe-23, | Lys-41 to Tyr-46, | Pro-48 to Val-59, | Thr-90 to Ile-103, | Ser-110 to Arg-116, | Pro-123 to Lys-137, | Lys-157 to Glu-167, | Arg-178 to Arg-194. | Phe-106 to Pro-114. |
| | | | | | | 3687 | 3688 | | 3689 | 3690 | 3691 | 3692 | 3693 | 3694 | | • | | 3695 | | | | | | | | 3698 |
| | | • | • | | | 242 - 373 | 43 - 213 | | 413 - 237 | 314 - 412 | 244 - 417 | 28 - 240 | 452 - 595 | 2 - 415 | | | | 1 - 642 | | | | | | | | 3 - 344 |
| | | | | | | 1512 | 1513 | | 1514 | 1515 | 1516 | 1517 | 1518 | 1519 | | | | 1520 | | | | | | | | 1521 |
| | | | | | | HODKC67R | HODKD20 HODKD20R | | НОДКД64 НОДКД64К | HODKE85R | HODKF91R | HODKG09 HODKG09R | HODKJ77R | HODKK26 HODKK26R | | | | HODKK40 HODKK40R | | | | | | | | HODKK73 HODKK73R |
| | | | | | | HODKC67 | HODKD20 | | норкр64 | HODKE85 | HODKF91 | HODKG09 | HODKJ77 | HODKK26 | | | | HODKK40 | | | *** | | | | | HODKK73 |

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| H0615: 2 | | | | | H0659: 4, L0770: 3, | L0747: 3, H0663: 2, | S0360: 2, L0521: 2, | L0776: 2, S0126: 2, | H0658: 2, S0406: 2, | L0755: 2, L0758: 2, | L0759: 2, S0242: 2, | T0002: 1, H0686: 1, | H0341: 1, L0616: 1, | S0354: 1, S0408: 1, | H0052: 1, H0009: 1, | H0083: 1, H0266: 1, | H0615: 1, L0483: 1, | H0040: 1, H0561: 1, | S0422: 1, L0520: 1, | L0625: 1, L0662: 1, | L0766: 1, L0649: 1, | L0519: 1, H0648: 1, | S3014: 1, L0748: 1 and | L0779: 1. | | | | , | |
| Ser-8 to Asn-15. | | , | | | | | | | | | | • | | | | | | | | | | | | | Glu-10 to Ala-26, | Lys-31 to Tyr-43, | Lys-45 to Glu-50, | lle-96 to Lys-102, | Asp-123 to Gly-128. |
| 3697 | 3698 | 3699 | 3700 | 3701 | 3702 | | | | | | | | | | | | | | | | | | | | 3703 | | | | |
| 272 - 433 | 439 - 579 | 36 - 149 | 1 - 210 | 5 - 409 | 20 - 328 | | | | | | | | | | | | | | | | | | | | 1 - 399 | | | | |
| 1522 | | | | 1526 | 1527 | | | | | | | | | | | | | | | | • | | | | 1528 | | | | |
| HODKK77 HODKK77R | HODKL56 HODKL56R | HODKM25R | HODKM31 HODKM31R | HODKN65 HODKN65R | HOECR39R | | | | | | | | | | | | | | | | | | | | HOFAB77R | | | | |
| HODKK77 | HODKL56 | HODKM25 | HODKM31 | HODKN65 | HOECR39 | | | | | | | | | | | | | | | | | | | | HOFAB77 | | | | |

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| | | | | | H0415: 2 | | • | | | , | H0415: 2 | | | | | | | | | | | | | • | | | | |
| | | Arg-1 to Phe-16. | His-3 to Ala-19. | | Glu-8 to Thr-14. | Ala-5 to Arg-14. | Asn-41 to Lys-56. | • | | Asp-1 to Leu-10. | Arg-1 to Arg-8, | Ala-22 to Met-31, | Asp-51 to Gln-56. | Arg-1 to Ala-6, | Ser-68 to Arg-73, | Arg-87 to Ala-93. | Arg-1 to Cys-10, | Glu-75 to Arg-94, | Arg-99 to Gly-115. | Lys-52 to Asp-57. | Arg-1 to Phe-7, | Gly-24 to Arg-36. | | Val-31 to Val-38, | Phe-46 to Ile-59, | Arg-120 to Gln-126. | | 3723 Asn-49 to Leu-54. |
| 3704 | 3705 | 3706 | 3707 | 3708 | 3709 | 3710 | 3711 | 3712 | 3713 | 3714 | 3715 | | : | 3716 | | | 3717 | | | 3718 | 3719 | | 3720 | 3721 | | | 3722 | 3723 |
| 95 - 277 | 85 - 219 | 2 - 397 | 1 - 162 | 1 - 204 | 69 - 323 | 1 - 423 | 50 - 289 | 1 - 264 | 1 - 369 | 3 - 296 | 2 - 481 | | | 2 - 421 | | | 25 - 387 | | | 1 - 186 | 2 - 232 | | 1 - 453 | 2 - 682 | | | 1 - 345 | 3 - 326 |
| 1529 | 1530 | 1531 | 1532 | 15 | 1534 | 1535 | 1536 | 1537 | 1538 | 1539 | 1540 | | | 1541 | | | 1542 | | | 1543 | 1544 | | 1545 | 1546 | | | 1547 | 1548 |
| HOFMF37R | HOFMF79RA | HOFMJ88R | HOFMJ93R | HOFMM84 HOFMM84R | HOFMN93R | HOFMP59R | HOFMT68 HOFMT68R | HOFMT69R | HOFMU92 HOFMU92R | HOFMV06 HOFMV06R | HOFNF63R | | | HOFNF76R | | | HOFNG51R | | | HOFNK44R | HOFNY53R | | HOFOB65R | HOFOB79RP | 00A | | HOFOE22R | HOFOF47R |
| HOFMF37 | HOFMF79 | HOFMJ88 | HOFMJ93 | HOFMM84 | HOFMN93 | HOFMP59 | HOFMT68 | HOFMT69 | HOFMU92 | HOFMV06 | HOFNF63 | | | HOFNF76 | | | HOFNG51 | | | HOFNK44 | HOFNY53 | ļ | HOFOB65 | HOFOB79 | | | HOFOE22 | HOFOF47 |

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| | | H0436: 44, L0748: 14, | L0439: 9, L0747: 9, | L0/69: 7, L0803: 7, | 1.0758: 7, 1.0761: 6 | L0662: 6, L0794: 6, | L0766: 6, L0663: 6, | L0779: 6, H0542: 6, | L0717: 5, L0756: 5, | H0052: 4, H0135: 4, | L0774: 4, L0659: 4, | L0665: 4, L0777: 4, | L0780: 4, L0731: 4, | L0759: 4, H0556: 3, | S0420: 3, S0410: 3, | S0422: 3, L0763: 3, | L0649: 3, L0804: 3, | L0805: 3, L0776: 3, | L0438: 3, H0547: 3, | H0672: 3, H0539: 3, | L0754: 3, L0757: 3, | L0591: 3, H0422: 3, | S0040: 2, S0114: 2, | S0116: 2, H0255: 2, | H0619: 2, H0486: 2, | T0039: 2, H0013: 2, | H0635: 2, H0253: 2, |
| Ala-4 to Arg-11. | Ala-1 to Tyr-6, Ile-17 to Ser-32. | Pro-34 to Lys-39. | : | | | | | | • | | | | | | | | | | | | | | | | | | r |
| 3724 | 3725 | 3726 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 - 351 | 35 - 193 | 110 - 286 | | | | | | | | | | | | | | | | | • | | | | | | | | |
| 1549 | 1550 | 1551 | | | | | | | | | | | | | | | | | | | | | | | | | |
| HOFOF56R | HOGAC46 HOGAC46R | HOGAQ03 HOGAQ03R | | | | | | | | | | | | | | | | | | | | | | | | | |
| HOFOF56 | HOGAC46 | HOGAQ03 | | | | | | | | | | | | | | | | | | | | | | | | | |

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| H0318: 2, S0049: 2, | H0046: 2, L0041: 2, | H0688: 2, H0428: 2, | H0628: 2, L0055: 2, | H0040: 2, H0087: 2, | H0488: 2, H0100: 2, | F0042: 2, H0529: 2, | L5566: 2, L0667: 2, | L0771: 2, L0768: 2, | L0375: 2, L0517: 2, | L0809: 2, L0666: 2, | H0520: 2, H0519: 2, | H0593: 2, S0380: 2, | H0694: 2, L0742: 2, | L0751: 2, L0750: 2, | S0434: 2, S0436: 2, | L0361: 2, L0601: 2, | L0603: 2, S0424: 2, | H0506: 2, H0265: 1, | H0650: 1, H0657: 1, | H0656: 1, L0760: 1, | H0341: 1, S0001: 1, | H0663: 1, H0662: 1, | S0418: 1, S0356: 1, | S0408: 1, H0580: 1, | S0007: 1, H0229: 1, | S0045: 1, S0046: 1, | S0132: 1, H0351: 1, | H0411: 1, H0431: 1, | H0592: 1, H0497: 1, |
| | | | | | | | , 199 | | H | | | | | <u>basel</u> | <u>.01</u> | | | | | | | | <u></u> | <u> </u> | | | <u></u> | - | <u>T</u> |
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| H0069: 1, S0280: 1, | H0118: 1, H0618: 1, | S0010: 1, H0421: 1, | H0251: 1, H0204: 1, | H0572: 1, H0050: 1, | H0012: 1, H0373: 1, | H0051: 1, T0010: 1, | H0354: 1, H0252: 1, | H0328: 1, H0622: 1, | 181: 1, H0617: 1, | H0038: 1, H0038: 1, | H0634: 1, H0616: 1, | 155: 1, H0264: 1, | S0038: 1, H0022: 1, | H0625: 1, H0538: 1, | S0210: 1, S0002: 1, | .0762: 1, L.0770: 1, | .5565: 1, L0373: 1, | .0800: 1, L.0642: 1, | .0374: 1, L0764: 1, | .0364: 1, L0388: 1, | .0655: 1, L0657: 1, | .0526: 1, L0518: 1, | .0382: 1, L0789: 1, | .0792: 1, L0664: 1, | H0723: 1, H0726: 1, | S0126: 1, H0689: 1, | H0690: 1, H0682: 1, | H0435: 1, H0670: 1, | H0648: 1, S0330: 1, |
| HO | HO |)OS | HO | HO | <u>)H</u> | OH | HO | HO | HO | ЮH, | OH | HO |)OS | ЮH | 202 | <u> </u> | L.5 | <u>ro</u> | 103 | <u> </u> | <u> </u> | <u>10.</u> | ro ro | | HO | S01 | OH |)HO | HO |
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| S0378: 1, S0152: 1, S0406: 1, H0555: 1, H0678: 1, L0744: 1, L0752: 1, L0753: 1, H0445: 1, H0707: 1, L0593: 1, L0595: 1, S0011: 1, H0668: 1, S0026: 1, H0665: 1, S0196: 1, H0543: 1 and H0677: 1. | L0777: 7, L0747: 6, L0779: 6, L0748: 5, L0776: 4, L0749: 4, L0770: 3, L0766: 3, L0759: 3, S0442: 2, L0769: 2, L0761: 2, L0771: 2, L0774: 2, L0771: 2, L0774: 2, L0771: 2, L0774: 2, L0758: 2, S0412: 2, H0402: 1, S0444: 1, H0438: 1, H0587: 1, H0674: 1, H0646: 1, L0763: 1, L0643: 1, L0763: 1, L0643: 1, L0764: 1, L0663: 1, L0387: 1, L0803: 1, L0526: 1, L0667: 1, L0663: 1, H0690: 1, |
| · | Asp-15 to His-22. |
| | 3727 |
| | 265 - 591 |
| | 1552 |
| | НОСВЕ60К |
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| H0435: 1, S0330: 1, | S0406: 1, L0740: 1, | L0751: 1, L0780: 1, | S0436: 1 and L0596: 1. | | | | H0435: 4, H0726: 3, | L0748: 3, H0355: 2, | H0059: 2, L0525: 2, | H0713: 1, H0717: 1, | H0586: 1, H0427: 1, | H0575: 1, H0744: 1, | H0327: 1, H0271: 1, | H0622: 1, H0087: 1, | S0438: 1, L0792: 1, | H0593: 1, H0555: 1, | L0698: 1 and H0506: 1. | H0052: 1, H0135: 1, | H0429: 1, H0519: 1 and | H0435: 1. | | | | | | | | • |
| | | | | · | | | | | | | | | • | | | | | | | | Val-6 to Ala-11. | Thr-56 to Glu-61, | Lys-87 to Lys-95, | Thr-110 to Arg-118. | | Arg-11 to Arg-16, | Pro-46 to Thr-52, | His-58 to Pro-65, |
| | | | | 3728 | 3729 | 3730 | 3731 | | | | | | | | | | | 3732 | | | 3733 | 3734 | | | 3735 | 3736 | | |
| | | | | 230 - 436 | 50 - 409 | 58 - 207 | 3 - 332 | | | | | | | | | | | 10 - 480 | | | 3 - 254 | 7 - 507 | | | 3 - 143 | 1 - 486 | | |
| | | | | 1553 | 1554 | 1555 | 1556 | | | | | | | | | | | 1557 | | | 1558 | 1559 | | | 1560 | 1561 | | |
| | | | | HOGCF48R | HOGCG83R | HOGCH23R | HOGCI28R | | | | | | | | | | , | HOGCJ10R | | | HOGCJ42R | HOGCJSSR | | | HOGCP07R | HOGCP86 HOGCP86RA | | |
| | | | | HOGCF48 | HOGCG83 | HOGCH23 | HOGCI28 | | | | | | | | | | | HOGCJ10 | | | HOGCJ42 | HOGCUSS | | | HOGCP07 | HOGCP86 | | |

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| Ala-71 to Trp-77, | Pro-134 to Gly-146. | His-14 to Phe-20, | Ser-37 to Gly-60. | Gly-20 to Leu-28, | Val-33 to Gly-41, | Thr-43 to Gly-55, | Val-58 to Arg-66. | Lys-7 to Thr-13, | Asp-24 to Thr-30, | Gly-39 to Glu-52, | Leu-70 to Arg-76, | Phe-87 to Tyr-92. | Lys-2 to Thr-8, | Asp-19 to Thr-25, | Gly-34 to Glu-47, | Leu-65 to Arg-71. | Asn-5 to Gln-12, | Gln-19 to Glu-25, | Arg-78 to Glu-99, | Thr-106 to Ala-111. | Arg-1 to Asn-8, | Phe-18 to His-24, | Asp-57 to Lys-62, | Lys-76 to Asp-81. | | | Thr-9 to His-19, | Leu-35 to Ala-46, |
| | | 3737 | <u> </u> | 3738 | | | | 3739 1 | | | | | 3740 1 | 7 | <u> </u> | _ | 3741 | <u>~</u> | | | 3742 | | 7 | _ | 3743 | 3744 | 3745 | |
| | • | 1 - 183 | | 3 - 443 | | | | 22 - 513 | | | | | 2 - 235 | | | | 3 - 338 | | | | 3 - 260 | | | | 3 - 152 | 95 - 184 | 2 - 397 | |
| | | 1562 | | 1563 | | | | 1564 | | | | | 1565 | | | | 1566 | | | | 1567 | | | | 1568 | 1569 | 1570 | |
| | | HOGCT44R | | HOGCV85R | | | | HOGCV93R | | • | | | HOGCY12R | | | | HOGCY58R | | | _ | HOGCY74R | | | | HOGDD29R | HOGDE77R | HOGDG03R | |
| | | HOGCT44 | | HOGCV85 | | | | HOGCV93 | | | | | HOGCY12 | - | | | HOGCY58 | | | | HOGCY74 | | | | HOGDD29 | HOGDE77 | HOGDG03 | |

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| | | L0665: 3, H0682: 2, | H0435: 2, L0751: 2, | H0663: 1, L0021: 1, | H0647: 1, L0806: 1, | L0664: 1, H0683: 1, | H0670: 1 and H0660: 1. | | | | | | | | | | | | | | | | | | | | | |
| Pro-55 to Pro-60, | Gly-69 to Arg-74. | Arg-35 to Gly-40, | His-51 to Lys-56, | Phe-94 to Ser-99, H0663: 1, L0021: 1, | Thr-102 to Gly-107, | Pro-113 to Ser-120. | | Gln-58 to Gln-64, | Cys-73 to Arg-88. | | Pro-38 to Met-44. | Pro-6 to Tyr-17, | Val-39 to Gln-45. | Glu-3 to Glu-14. | | Arg-9 to Val-17. | Arg-9 to Arg-18, | Arg-27 to Arg-35, | Arg-47 to Asp-55, | Asp-78 to Lys-83. | Gly-1 to Ala-6, | Glu-54 to Ile-62, | Asp-89 to Thr-98. | | Tyr-94 to Phe-99. | | Leu-3 to Arg-19. | |
| | | 3746 | | , | | | | 3747 | · | 3748 | 3749 | 3750 | | 3751 | 3752 | 3753 | 3754 | | | | 3755 | | | 3756 | 2757 | 3758 | 3759 | 3760 |
| | : | 3 - 497 | | | | | • | 1 - 342 | | 124 - 357 | 2 - 322 | 74 - 244 | | 3 - 299 | 3 - 335 | 22 - 492 | 48 - 470 | | | | 1 - 417 | | | 2 - 241 | 3 - 326 | 2 - 325 | 2 - 325 | 2 - 226 |
| | | 1571 | | | | | | 1572 | | 1573 | 1574 | 1575 | | 1576 | 1577 | 1578 | 1579 | | | | 1580 | | | 1581 | 1582 | 1583 | 1584 | 1585 |
| | | HOGDG76R | | | | | | HOGDI44R | | HOGDI49R | HOGDO25 HOGDO25R | HOGDO58R | | HOGDP10R | HOGDQ54 HOGDQ54R | HOGDQ95R | HOGDR70R | | | • | HOGDV93R | | | HOGEA27R | HOGED85R | HOGEK25R | HOGEN30R | HOGENSSR |
| | | HOGDG76 | | | | | | HOGDI44 | | HOGDI49 | HOGDO25. | HOGDO58 | | HOGDP10 | HOGDQ54 | HOGDO95 | HOGDR70 | | | | HOGDV93 | | | HOGEA27 | HOGED85 | HOGEK25 | HOGEN30 | HOGEN55 |

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| | | | | | | | | | | | | | T-r-u | | | | _ | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | | <u> </u> | _ | | | |
| L0521: 1, L0662: 1 and | 110453: 1. | | H0295: 8, H0617: 7, | L0665: 7, H0435: 7, | H0592: 6, H0494: 6, | L0439: 6, L0751: 6, | S0360: 5, S0046: 4, | H0587: 4, H0012: 4, | H0264: 4, L0662: 4, | S0406: 4, H0586: 3, | H0620: 3, H0031: 3, | H0551: 3, S0440: 3, | S0002: 3, L0763: 3, | L0648: 3, L0649: 3, | L0774: 3, L0659: 3, | H0520: 3, H0547: 3, | H0689: 3, H0660: 3, | S0328: 3, S0330: 3, | L0748: 3, L0754: 3, | L0750: 3, H0294: 2, | H0650: 2, H0341: 2, | S0356: 2, S0132: 2, | H0370: 2, H0333: 2, | H0643: 2, L0623: 2, | H0706: 2, H0081: 2, | H0039: 2, H0553: 2, | H0181: 2, H0068: 2, | H0135: 2, H0040: 2, | H0646: 2, L0640: 2, |
| Gly-17 to Asn-27, | 361-31 to fils-01. | | | - | | | | | | | | | | | | | | | | | | ٠ | | | | | | | |
| 3761 | 0740 | 70/6 | 3763 | ; | | | | | | | | | | | | | | - | | | | | | | | | | | |
| 3 - 212 | 000 | 7 - 7.23 | 2 - 376 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1586 | 1507 | 138/ | 1588 | | | | | | | | | | | | | | | | , | | | | | | | | | | |
| HOGEP46 HOGEP46R | TIOCHERON | HOUEFONK | HOGET60 HOGET60R | | | | | | | | | | | , | | | | | • | | | | | | | | | | |
| HOGEP46 | 0)410011 | HOGERON | HOGET60 | ٠. | | | | | | | | | | | | | | | | | | | | | | | | | |

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| L0641: 2, | L0804: 2, | L0776: 2, | L0809: 2, | H0519: 2, | H0670: 2, | L0744: 2, | S0434: 2, | H0483: 1, | H0638: 1, | S0358: 1, | S0410: 1, S0410: | H0550: 1, | H0600: 1, | H0575: 1, | H0618: 1, | H0234: 1, | H0121: 1, | H0123: 1, | H0290: 1, | H0428: 1, | T0023: 1, | H0316: 1, | H0100: 1, | T0090: 1, | S0210: 1, | L0646: 1, | L0771: 1, | L0768: 1, | L0766: 1, |
| L0637: 2, L0641: 2, | L0764: 2, 1 | L0806: 2, L0776: 2, | L0657: 2,] | L0664: 2, | H0682: 2, | H0672: 2, | L0740: 2, | H0677: 2, | H0305: 1, | S0442: 1, | S0376: 1, 3 | H0411: 1, | H0455: 1, | H0101: 1, H0575: 1, | H0590: 1, | H0052: 1, | H0597: 1, H0121: 1, | L0041: 1, H0123: 1 | H0246: 1, | H0292: 1, | H0622: 1, T0023: 1, | H0030: 1, | H0059: 1, | S0306: 1, T0090: | H0649: 1, | S0426: 1,] | L0765: 1, | L0626: 1, L0768: 1, | L0364: 1, L0766: |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L0375: 1, L0651: 1, L0378: 1, L0653: 1, L0655: 1, L0558: 1, L0635: 1, L0518: 1, L0383: 1, L0792: 1, L0663: 1, S0006: 1, H0696: 1, S0044: 1, S3014: 1, L0743: 1, L0752: 1, L0755: 1, L0731: 1, L0759: 1, H0216: 1, H0543: 1, | AR096: 1, AR104: 1, | AR055: 0, AR061: 0, AR060: 0, AR089: 0 | S0250: 1 and H0435: 1. | | | | | | | | H0637: 2, H0413: 1 and H0648: 1. | | | |
|---|---------------------|---|------------------------|----------|-----------|----------|----------|----------|-------------------------------------|------------------|-------------------------------------|-----------|----------|-------------------|
| · | Pro-8 to Asn-34, | Ala-39 to Arg-53. | | | | | | | Ser-1 to Gln-6, Ser-51 to Thr-56 | Gly-4 to Lys-10. | Gly-4 to Lys-10. | | | Pro-17 to Ser-24. |
| · | 3764 | | | 3765 | 3766 | 3767 | 3768 | 3769 | 3770 | 3771 | 3772 | 3773 | 3774 | 3775 |
| · | 3 - 368 | | | 1 - 417 | 256 - 333 | 52 - 144 | 2 - 307 | 3 - 170 | 128 - 313 | 9 - 194 | 9 - 152 | 126 - 260 | 60 - 383 | 14 - 205 |
| | 1589 | | | 1590 | 1591 | 1592 | 1593 | 1594 | 1595 | 1596 | 1597 | 1598 | 1599 | 1600 |
| | HOGEU84R | | | HOGEW58R | HOGEW72R | HOGEZ03R | HOGEZ27R | HOHDI15R | HOOHB44R | HOOHC27R | HOOHJ69R | HOOHK47R | HOOHL15R | HOOHL19R |
| · | HOGEU84 | | | HOGEW58 | HOGEW72 | HOGEZ03 | HOGEZ27 | HOHDI15 | HOOHB44 | HOOHC27 | | HOOHK47 | HOOHL15 | HOOHL19 |

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| L0748: 11, L0666: 5. | L0750: 5, L0805: 4, | L0663: 4, L0664: 4, | L0439: 4, L0662: 3, | L0758: 3, L0005: 2, | H0587: 2, H0318: 2, | H0052: 2, H0024: 2, | H0553: 2, L0770: 2, | L0648: 2, L0766: 2, | L0497: 2, L0665: 2, | H0519: 2, H0648: 2, | L0740: 2, L0731: 2, | L0593: 2, H0677: 2, | H0170: 1, H0583: 1, | H0638: 1, H0586: 1, | H0331: 1, H0486: 1, | H0013: 1, H0156: 1, | H0036: 1, L0040: 1, | H0620: 1, S6028: 1, | H0328: 1, H0615: 1, | T0023: 1, S0036: 1, | H0591: 1, H0040: 1, | T0067: 1, S0472: 1, | H0529: 1, L0761: 1, | L0764: 1, L0771: 1, | L0649: 1, L0803: 1, | L0804: 1, L0775: 1, | L0806: 1, L0655: 1, | L0657: 1, L0659: 1, | L0790: 1, H0144: 1, |
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| 3776 | | | | : | | | | | | | | | | | | | | | | | | | | | | | | | ٠ |
| 1601 271 - 570 | - | | | : | | | | | | | | | | | | | - | | | | | | | • | | • | | • | |
| 1601 | | | - | | | | | | | | | | | | | | | | | | | | | | | | - | | |
| HOOHL68 HOOHL68R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | , |
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| L0438: 1, H0672: 1, H0522: 1, S0392: 1, L0747: 1, L0749: 1, L0756: 1, L0752: 1, H0445: 1, L0591: 1 and H0422: 1. | | | | | | | | | | | | | L0770: 12, H0657: 10, | H0659: 9, L0776: 8, | l8: 8, L0755: 8, | 4: 7, S0410: 6, | 74: 6, L0769: 6, | 0: 6, S0408: 5, | S0440: 5, L0775: 5, | 6: 4, S0360: 4, | 8: 4, L0777: 4, | 2: 4, L0759: 4, | H0341: 3, S0358: 3, |
| L0438: 1 H0522: 3 L0747: 1 L0756: 1 H0445: 3 H0422: 3 | | Lys-1 to Lys-13. | Pro-10 to Ser-37, | Gln-41 to Thr-57, | Arg-62 to Thr-68, | Pro-80 to Lys-85, | Gly-99 to Gly-106. | | | | Glu-1 to Glu-11. | | L07 | S90H | H064 | L077 | H045 | L075 | 8044 | 8037 | L074 | L075 | H034 |
| · | 3777 | 3778 | 3779 | | | | | 3780 | 3781 | 3782 | 3783 | 3784 | 3785 | | | | • •• | | | | | | · |
| · | 1 - 186 | 161 - 313 | 67 - 399 | | | | | 336 - 500 | 69 - 281 | 53 - 145 | 3 - 194 | 17 - 163 | 3 - 239 | • | | | | | | | | | |
| | | | 1604 | | | | | 1605 | 1606 | _ | 1608 | 1609 | 1610 | | | | | | | | | | |
| · | HOOHP84R | НООНО09 НООНО09К | нооновз нооновзк | | | | | HOOHR81R | HOOHS67 HOOHS67R | HOOHS82R | HOOHT13R | HOOHX50 HOOHX50R | HOOIA46R | | | | | | | | | | |
| | HOOHP84 | НООНОО9 | нооно83 | | | | - | HOOHR81 | HOOHS67 | HOOHS82 | HOOHT13 | HOOHX50 | HOOIA46 | | | | | | | | | | |

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| H0616: 3, L0766: 3, | .0740: 3, L.0747: 3, | .0731: 3, L0758: 3, | S0026: 3, H0170: 2, | 10556: 2, H0685: 2, | H0656: 2, S0420: 2, | S0444: 2, T0109: 2, | 10156: 2, H0545: 2, | L0471: 2, H0031: 2, | 10040: 2, H0560: 2, | J0065: 2, S0438: 2, | .0763: 2, L.0772: 2, | .0764: 2, L0518: 2, | L0783: 2, H0144: 2, | S0374: 2, H0520: 2, | 10658: 2, H0670: 2, | .0753: 2, H0445: 2, | S0434: 2, H0665: 2, | S0194: 2, S0134: 1, | S0116: 1, H0663: 1, | .0481: 1, H0638: 1, | 10125: 1, S0442: 1, | H0351: 1, H0369: 1, | H0550: 1, H0431: 1, | H0331: 1, H0069: 1, | S0346: 1, T0048: 1, | S0182: 1, S0049: 1, | H0563: 1, H0081: 1, | H0620: 1, H0014: 1, | H0373: 1, H0083: 1, |
| | | <u></u> | S | | <u>, 114</u> | S | | | <u> </u> | | | | <u> </u> | S | - | | S | S | S | <u>band</u> | <u>الملوز</u> | <u>i-L-i</u> | | <u>.</u> | S | <u>S</u> | | <u>بطون</u> | |
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| H0375: 1, H0428: 1, H0708: 1, H0634: 1, L0475: 1, H0413: 1, L0529: 1, L0762: 1, L0371: 1, L0638: 1, L0373: 1, L0646: 1, L0520: 1, L0521: 1, L0662: 1, L0805: 1, L0655: 1, L0517: 1, L0540: 1, L0542: 1, L0545: 1, L0791: 1, L0663: 1, L0665: 1, H0690: 1, H0435: 1, H0690: 1, H0651: 1, S0380: 1, S0406: 1, L0749: 1, L0780: 1, H0668: 1, H0653: 1, | L0803: 14, L0439: 9, L0752: 9, L0666: 7, L0659: 5, S0328: 5, L0756: 5, L0731: 5, L0794: 4, S0412: 4, S0360: 3, H0634: 3, |
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| | 3786 |
| | 1611 251 - 361 |
| | HOOIA57R 1 |
| | HOOIA57 |

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| S0002: 3, L0805: 3, | .0809: 3, L0438: 3, | H0520: 3, L0748: 3, | .0740: 3, L.0758: 3, | H0656: 2, S0418: 2, | S0358: 2, H0013: 2, | H0083: 2, S0022: 2, | S0386: 2, L0776: 2, | H0648: 2, L0602: 2, | 2, S0028: 2, | .0742: 2, L.0596: 2, | 2, H0170: 1, | H0171: 1, H0657: 1, | 1, H0669: 1, | 1, H0638: 1, | 1, S0376: 1, | 1, S0007: 1, | S0132: 1, L0717: 1, | H0369: 1, H0600: 1, | 1, H0497: 1, | 1, L0021: 1, | H0575: 1, S0010: 1, | 1, H0421: 1, | H0263: 1, T0115: 1, | 1, L0471: 1, | S0051: 1, H0510: 1, | H0375: 1, S0003: 1, | H0328: 1, H0428: 1, | H0039: 1, H0622: 1, | .0483: 1, H0031: 1, |
| S0002: | T0809: | H0520: | L0740: | H0656: | S0358: | H0083: | S0386: | H0648: | H0521: | L0742: | H0423: | H0171: | H0341: | H0662: | S0420: | H0580: | S0132: | H0369: | H0587: | H0427: | H0575: | H0581: | H0263: | H0545: | S0051: | H0375: | H0328: | H0036: | L0483: |
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| H0553: 1, H0644: 1, | H0628: 1, H0673: 1, | S0364: 1, H0316: 1, | H0598: 1, H0090: 1, | H0087: 1, H0551: 1, | T0067: 1, H0488: 1, | H0623: 1, H0494: 1, | L0475: 1, H0560: 1, | H0509: 1, S0150: 1, | H0641: 1, S0422: 1, | S0426: 1, H0529: 1, | L0770: 1, L0761: 1, | L0627: 1, L0646: 1, | L0773: 1, L0521: 1, | L0768: 1, L0766: 1, | L0527: 1, L0647: 1, | L0789: 1, L0663: 1, | S0428: 1, S0374: 1, | H0519: 1, H0435: 1, | H0659: 1, H0672: 1, | H0518: 1, H0522: 1, | H0134: 1, L0356: 1, | L0745: 1, L0747: 1, | L0779: 1, L0759: 1, | • | L0608: 1, L0594: 1, | S0242: 1. | | • |
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| | | | | | | | • | | | | | | | | | | | | | _ | | | | | | | 46 - 153 | 2 - 199 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 1612 | 1613 |
| | | | | , | | | | | | | | | | | | | | | | | | | | | | , | HOOIB34R | HOOIB54R |
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| | | | | | | | | | | | | L0758: 14, L0747: 10, | L0752: 10, L0731: 10, | L0663: 9, H0547: 9, | L0740: 9, L0666: 8, | H0046: 7, S0126: 7, | L0748: 7, H0539: 6, | L0439: 6, L0759: 6, | L0595: 6, H0543: 6, | H0050: 5, H0031: 5, | H0648: 5, S0328: 5, | H0624: 4, H0657: 4, | H0656: 4, S0007: 4, | H0549: 4, H0550: 4, | H0591: 4, H0616: 4, | H0551: 4, L0769: 4, | L0662: 4, L0659: 4, | H0144: 4, L0438: 4, |
| | Ile-1 to Lys-7, | Gly-13 to Lys-19, | Pro-59 to Arg-76. | Val-50 to Arg-56. | Leu-41 to Ser-52. | | | | | | | Asp-48 to Thr-54, | Glu-57 to Ser-63. | | | | | | | | | | | , | | | | |
| 3789 | 3790 | | | 3791 | 3792 | 3793 | 3794 | 3795 | 3796 | 3797 | 3798 | 3799 | | | | | | | | | | | | | | | | |
| 3 - 389 | 2 - 301 | | | 2 - 172 | 97 - 264 | 3 - 164 | 20 - 109 | 272 - 400 | 118 - 315 | 125 - 268 | 80 - 211 | 1 - 189 | | | | | | | | | | | | | | | | |
| 1614 | 1615 | | | 1616 | 1617 | 1618 | 6191 | 1620 | 1621 | 1622 | 1623 | 1624 | | | | | | | | | | | | | | | | |
| HOOIF71R | HOOIG71R | • | | HOOIK04R | HOOIL33R | HOOIO53R | HOOIR94R | HOOJA64R | HOOJB36R | HOOJE93R | HOOJK91R | HOOJN84R | | | | | | | | | | | | | | | | |
| HOOIF71 | HOOIG71 | | | HOOIK04 | HOOIL33 | HOOIO53 | HOOIR94 | HOOJA64 | HOOJB36 | HOOJE93 | H00JK91 | HOOJN84 | | | | | | | | | | | | | | | | |

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| L0749: 4, L0750: 4, | .0755: 4, H0663: 3, | S0418: 3, H0619: 3, | .0717: 3, H0013: 3, | .0163: 3, H0553: 3, | 090: 3, L0763: 3, | | .0774: 3, L0664: 3, | .0665: 3, H0519: 3, | H0521: 3, L0742: 3, | 591: 3, S0276: 3, | H0171: 2, H0341: 2, | S0356: 2, S0360: 2, | H0393: 2, S0300: 2, | 156: 2, H0150: 2, | H0011: 2, H0687: 2, | S0003: 2, H0328: 2, | .0483: 2, H0634: 2, | H0494: 2, H0560: 2, | H0561: 2, H0646: 2, | L0638: 2, L0646: 2, | 374: 2, L0764: 2, | 776: 2, L0655: 2, | 657: 2, H0520: 2, | H0660: 2, H0134: 2, | .0605: 2, L0593: 2, | H0542: 2, S6024: 1, | 583: 1, S0116: 1, | H0483: 1, S0420: 1, | S0358: 1, S0408: 1, |
| 071 | <u>3</u> | 80 | <u>1</u> | <u>1</u> | OH HO | OT ITO | <u> </u> | <u>2</u> | OH. | 2 | OH | SO | OH HO | OH | OH | <u>S</u> | <u>3</u> | OH OH | OH. | <u>3</u> | <u>21</u> | <u>2</u> | 2 | OH | <u> </u> | OH OH | OH | OH . | SO |
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| H0580: 1, S0045: 1, H0440: 1, H0431: 1, T0104: 1, H0600: 1, H0632: 1, H0559: 1, H0648: 1, H0069: 1, S0280: 1, L0021: 1, H0042: 1, H0706: 1, H0042: 1, H0706: 1, H0052: 1, H0053: 1, H0053: 1, H0058: 1, H0058: 1, H0058: 1, H0058: 1, H0059: 1, H0059: 1, H0059: 1, H0059: 1, H0059: 1, L050: 1, L076: 1, L052: 1, L066: 1, L0648: 1, L0648: 1, L0658: 1, L0666: 1, L0658: 1, L0666: 1, L0658: 1, L0666: 1, L0658: 1, L0668: 1, | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| H05 H04 H05 H05 H05 H05 H05 H05 H05 H05 H05 H05 | 80: 1, S0045: 1, | 40: 1, H0431: 1,)4: 1, H0600: 1, | 32: 1, H0559: 1, | 85: 1, H0069: 1, | 30: 1, L0021: 1, | 42: 1, H0706: 1, | 05: 1, H0581: 1, | 21: 1, H0052: 1, | 71: 1, S0051: 1, | 66: 1, H0267: 1, | 16: 1, H0028: 1, | 52: 1, H0615: 1, | 44: 1, H0169: 1, | 98: 1, H0163: 1, | 38: 1, H0372: 1, | 12: 1, H0413: 1, | 23: 1, T0004: 1, | 72: 1, S0448: 1, | to: 1, S0150: 1, | H: 1, S0422: 1, | 98: 1, L0369: 1, | 20: 1, L0762: 1, | 51: 1, L0648: 1, | 21: 1, L0363: 1, | 49: 1, L0650: 1, | 23: 1, L0806: 1, | 53: 1, L0606: 1, | 51: 1, L0527: 1, | .0809: 1, H0658: 1, |
| | H05 | H047 | :90H | H048 | S028 | HOOK | H05(| H042 | L047 | H026 | S031 | H02; | 790H | H059 | H00: | H041 | 790H | 8037 | S044 | 8034 | [F026 | L052 | I-076 | L052 | 1064 | 1052 | 590T |) 1000 | T080 |
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| H0672: 1, S0330: 1, S0152: 1, H0696: 1, S0406: 1, H0555: 1, H0478: 1, S0432: 1, L0786: 1, S0260: 1, H0445: 1, L0366: 1, S0026: 1, H0667: 1, | S0446: 1 and H0008: 1. | H0648: 2, H0436: 2, | L0748: 2, S0360: 1, L0766: 1, L0803: 1 and | L0779: 1. | | | | | H0486: 1 and H0648: 1. | | L0731: 2, H0483: 1, T0007: 1, T0039: 1. | H0562: 1, L0769: 1, | L0766: 1, H0670: 1, | H0648: 1, L0/56: 1, | L0759: 1, L0756: 1, L0759: 1 and L0485: 1. | |
| | | | | | | | | Ala-2 to Asp-10. | | | Arg-11 to Pro-22, Asn-42 to Lys-48. | • | | | | Pro-8 to Phe-18. |
| | 3800 | 3801 | | • | 3802 | 3803 | 3804 | 3805 | 3806 | 3807 | 3808 | | | | | 3809 |
| | 93 - 248 | 160 - 306 | , , , , , , , , , , , , , , , , , , , | | 77 - 265 | 78 - 290 | 1 - 237 | 2 - 340 | 318 - 560 | 317 - 463 | 106 - 267 | | | | | 147 - 479 |
| | 1625 | 1626 | | | 1627 | 1628 | 1629 | 1630 | 1631 | 1632 | 1633 | | | | | 1634 |
| | HOOJP58R | HOOJR60R | | | HOOJR72R | HOOJS84R | HOOJT32R | HOOJT65R | HOOJV78R | HOOJX42R | HOOJX80R | | | | | HOOJY17 HOOJY17R |
| | HOOJP58 | HOOJR60 | | | HOOJR72 | HOOJS84 | HOOJT32 | HOOJT65 | HOOJV78 | HOOJX42 | HOOJX80 | | | | | HOOJY17 |

| | | | | | | | | | | | | H0547: 16, H0090: 11, | H0543: 10, H0542: 9, | H0341: 8, L0471: 8, | H0551: 8, S0358: 7, | H0561: 7, S0126: 7, | H0521: 7, H0657: 5, | H0013: 5, S0440: 5, | H0529: 5, H0144: 5, | H0519: 5, H0265: 4, | S0040: 4, H0264: 4, | H0560: 4, H0520: 4, | S0027: 4, L0731: 4, | L0591: 4, L0592: 4, | L0595: 4, H0423: 4, | S0424: 4, H0170: 3, | H0686: 3, H0638: 3, | S0360: 3, S0410: 3, | H0580: 3, H0486: 3, |
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| | Gln-1 to Cys-7, | Asn-14 to Lys-22, | Arg-29 to Leu-34, | Glu-46 to Leu-54. | Ala-1 to Pro-6, | Ala-22 to Glu-27, | Glu-36 to Ser-45, | Glu-62 to Gly-67, | Gln-74 to Phe-83, | Thr-90 to Ser-96, | His-105 to Pro-116. | | | | | | | | | | | | | • | | | | | |
| 3810 | 3811 | | | | 3812 | | _ | | | | | 3813 | | | | | | | | | | | | | | | | | |
| 51 - 347 | 2 - 184 | | | | 1 - 462 | | | | | | | 3 - 437 | | | | | | | | | , | | | | , | | | | |
| 1635 | 1636 | | | | 1637 | | | | | | | 1638 | | | | | | _ | | | | | | | | | | | |
| HOOJY41R | HOOJY44R | | | | HOOJY80R | | | | | | | HOOJY92R | | | | | | | | | | | | | | | | | |
| HOOJY41 | HOOJY44 | | | | HOOJY80 | | | | | | | HO0JY92 | | | | | | | | | | | | | | | | | |

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| H0318: 3, H0510: 3, | H0266: 3, H0553: 3, | H0591: 3, H0040: 3, | H0634: 3, S0150: 3, | .0803; 3, L0657; 3, | H0435: 3, S0152: 3, | L0740: 3, L0747: 3, | 30436: 3, L0588: 3, | H0556: 2, S0116: 2, | H0663: 2, S0356: 2, | 30354: 2, S0376: 2, | S0046: 2, H0393: 2, | 10642: 2, H0574: 2, | F0109: 2, H0635: 2, | S0010: 2, T0110: 2, | H0012: 2, H0083: 2, | S0214: 2, H0038: 2, | F0041: 2, T0042: 2, | 10494: 2, H0647: 2, | S0422: 2, S0002: 2, | .0554: 2, H0660: 2, | H0518: 2, S0406: 2, | .0593: 2, H0667: 2, | 10624: 1, H0171: 1, | H0159: 1, S0114: 1, | 10656: 1, H0484: 1, | H0661: 1, H0664: 1, | H0450: 1, S0442: 1, | S0045: 1, H0619: 1, | H0550: 1, S0222: 1, |
| | | | <u> </u> | | | | <u> </u> | | <u> </u> | <u>.</u> | <u> </u> | <u>P</u> | <u>.</u> | 8 | | <u>S</u> | <u>.r</u> | <u> </u> | <u> </u> | <u>1</u> | <u> </u> | 1 | | <u>,4</u> | | | <u>)-1-1</u> | <u>.</u> | 1 |
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| H0600: 1, H0586: 1, | 70039: 1, T0040: 1, | H0244: 1, H0069: 1, | H0575: 1, H0004: 1, | S0665: 1, H0581: 1, | 121: 1, S0049: 1, | H0052: 1, T0115: 1, | 327: 1, H0572: 1, | H0050: 1, H0620: 1, | H0355: 1, S6028: 1, | S0316: 1, H0290: 1, | 286: 1, H0615: 1, | 39: 1, H0622: 1, | H0031: 1, H0316: 1, | S0036: 1, H0616: 1, | H0412: 1, H0056: 1, | 38: 1, S0112: 1, | H0128: 1, H0429: 1, | 34: 1, H0625: 1, | 386: 1, H0509: 1, | H0641: 1, H0633: 1, | 10: 1, S0426: 1, | L0761: 1, L0800: 1, | '64: 1, L0773: 1, | 75: 1, L0663: 1, | 06: 1, S0148: 1, | L0438: 1, H0593: 1, | H0689: 1, H0670: 1, | H0666: 1, H0648: 1, | S0328: 1, S0330: 1, |
| HO | <u> 170</u> |)HO | HO | 908 | 70 <u>H</u> |)OH | (HO: |)OH | :0H | S03 |) HO |)0H |)OH | 00S | 70H | 00S | IOH HO | HO: | HO | HO | S02 | L07 | 107 | <u> 1707</u> | 200 | 10 <u>1</u> | HOC |)OH | 803 |
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| S0378: 1, H0696: 1, H0134: 1, H0555: 1, S0037: 1, S0206: 1, L0749: 1, S0031: 1, S0260: 1, H0445: 1, S0434: 1, L0599: 1, L0594: 1, H0422: 1 and S0456: 1. | | | H0657: 3, L0717: 2, | H0421: 2, L0766: 2, | L0666: 2, L0756: 2, | L0759: 2, H0717: 1, | H0587: 1, H0156: 1, | L0021: 1, H0581: 1, | H0014: 1, H0252: 1, | S0422: 1, L0662: 1, | L0794: 1, L0655: 1, | L0809: 1, L0543: 1, | L0791: 1, L0665: 1, | H0658: 1, H0670: 1, | H0648: 1, H0672: 1, | H0696: 1, L0780: 1, | S0434: 1 and H0506: 1. | | | L0775: 5, L0776: 5, | L0747: 5, L0604: 5, | L0769: 4, L0805: 4, |
|---|-----------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-------------------|-----------|---------------------|---------------------|---------------------|
| · | | Asp-1 to Lys-22. | | | | | | | | | | | | • | | | | Pro-20 to Gly-38. | | Gly-69 to Glu-78. | • | |
| | 3814 | 3815 | 3816 | | | | | | | | | | | | | | | 3817 | 3818 | 3819 | | |
| | 107 - 367 | 118 - 453 | 210 - 344 | | | | | | | | | | | | | | | 14 - 196 | 107 - 571 | 207 - 461 | | |
| | 1639 | 1640 | 1641 | | | | | | | | | | | | | | | 1642 | 1643 | 1644 | | |
| | HOOKK83R | HOOKN43 HOOKN43R | HOOKN71R | | | | | | | | | | | | | | | HOPJA09R | HOPJF95R | HOPJG60R | | |
| | HOOKK83 | HOOKN43 | HOOKN71 | | | | | | | | | | | | | | | HOPJA09 | HOPJF95 | HOPJG60 | | |

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| L0777: 3, L0759: 3, L0774: 2, L0809: 2, L0758: 2, H0341: 1, H0484: 1, S0358: 1, S0444: 1, S0360: 1, S6026: 1, S0278: 1, H0156: 1, H0102: 1, L0770: 1, L0766: 1, L0804: 1, L0657: 1, L0789: 1, H0684: 1, H0696: 1, S0044: 1, L0756: 1 and L0780: 1. | H0547: 41, L0751: 26, H0520: 18, S0344: 12, L0731: 11, T0006: 9, L0794: 9, L0753: 8, L0809: 6, H0135: 5, S0142: 5, L0800: 5, L0665: 5, L0743: 5, L0747: 5, H0024: 4, S0328: 4, L0759: 4, H0661: 3, H0594: 3, H0661: 3, L0759: 3, H0658: 3, H0666: 3, L0750: 3, L0752: 3, H0352: 3, H0664: 2, H0652: 2, H0041: 2, H0662: 2, H0041: 2, |
| | Pro-4 to Ser-29, Pro-31 to Ser-38. |
| | 3820 |
| | 2 - 136 |
| | 1645 |
| | HOPJG66R |
| | HOPJG66 |

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| H0050: 2, H0099: 2, | H0494: 2, S0002: 2, | .0769: 2, L0806: 2, | 0517: 2, L0382: 2, | H0684: 2, H0660: 2, | H0539: 2, S0152: 2, | .0748: 2, L0587: 2, |)595: 2, H0294: 1, | H0656: 1, H0484: 1, | 0669: 1, H0208: 1, | H0619: 1, H0586: 1, | H0333: 1, H0427: 1, | 0052: 1, H0251: 1, | H0546: 1, H0545: 1, | 0012: 1, H0688: 1, | H0181: 1, H0606: 1, | 10334: 1, H0646: 1, | S0144: 1, S0426: 1, | L0762: 1, L0640: 1, |)763: 1, L0637: 1, |)662: 1, L0386: 1, |)803: 1, L0804: 1, | L0774: 1, L0378: 1, | 3805: 1, L0629: 1, |)558: 1, L0659: 1, | .0783: 1, L0791: 1, | T0689: 1, H0648: 1, | S0330: 1, S0332: 1, | H0436: 1, H0540: 1, | S0028: 1, L0744: 1, |
| 臣 | H | <u> </u> | ı | Ħ | H | 3 | 3 | Ħ | Ħ | H | H | 茁 | H | H | Ħ | H | 0 <u>S</u> | 0 | 3 | 2 | 3 | <u>김</u> | <u>ਬ</u> | <u>3</u> | <u> </u> | H | <u>S</u> | 田 | SO |
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| E0755: 1, L0757: 1, L0758: 1 and S0276: 1. | | | | | S0412: 22, L0662: 19, | L0777: 14, S0010: 11, | S0222: 9, S6028: 9, | L0750: 9, T0010: 8, | L0659: 8, L0747: 8, | L0756: 8, L0663: 7, | L0439: 7, H0051: 6, | L0518: 6, L0754: 6, | L0752: 6, S0280: 5, | H0575: 5, S0358: 4, | S0346: 4, L0753: 4, | H0170: 3, H0662: 3, | S0360: 3, H0427: 3, | L0471: 3, H0373: 3, | L0638: 3, L0637: 3, | L0764: 3, L0774: 3, | L0809: 3, L0666: 3, | S0310: 3, H0672: 3, | H0696: 3, L0731: 3, | H0506: 3, H0713: 2, | S0408: 2, H0411: 2, | H0455: 2, H0574: 2, | S0414: 2, H0486: 2, |
| | Ala-83 to Arg-91, | Trp-99 to Tyr-105, | Glv-2 to Ala-13. | | | | | | | | | | | • | | | | | | | | | | | | | |
| | 3821 | | 3822 | 3823 | 3824 | | | | | | | | | | | | | | | | | | | | | | |
| | 3 - 542 | • | 166 - 597 | 1 | 148 - 285 | | | | | | | | | | | | | | | | | | | | | , | |
| | 1646 | | 1647 | 1648 | 1649 | | | | | | | | | | | | | | | | | | | | | | |
| | HOPJG79R | | HOPJG89R | HOPJH17R | HOPJH38R | | | | | | | | | | | | | | | | | | | | | | |
| | HOPJG79 | | HOPJG89 | HOPJH17 | НОРЈН38 | | | | | | | - | | | | | | | | , | | | | | | | |

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| H0036: 2, S0049: 2, | H0052: 2, H0327: 2, | H0687: 2, H0428: 2, | H0553: 2, H0644: 2, | H0038: 2, L0520: 2, | L0762: 2, L0770: 2, | L0653: 2, L0517: 2, | S0044: 2, L0442: 1, | H0583: 1, L0443: 1, | S0110: 1, S0282: 1, | S0400: 1, H0661: 1, | S0348: 1, S0356: 1, | S0444: 1, H0329: 1, | S0007: 1, H0619: 1, | S6026: 1, S0300: 1, | L0717: 1, S6022: 1, | H0550: 1, H0592: 1, | H0587: 1, H0599: 1, | H0042: 1, H0590: 1, | H0318: 1, H0309: 1, | H0545: 1, H0563: 1, | H0564: 1, H0123: 1, | H0019: 1, S0050: 1, | L0163: 1, S0388: 1, | H0356: 1, H0328: 1, | H0688: 1, H0039: 1, | T0023: 1, H0031: 1, | H0111: 1, H0169: 1, | S0364: 1, L0455: 1, | H0135: 1, H0163: 1, |
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| T0067: 1, T0069: 1, | T0004: 1, H0100: 1, | S0112: 1, L0370: 1, | L0598: 1, L0769: 1, | L0630: 1, L0800: 1, | L0648: 1, L0363: 1, | L0768: 1, L0649: 1, | L0803: 1, L0775: 1, | L0375: 1, L0651: 1, | L0784: 1, L0523: 1, | L0805: 1, L0776: 1, | L0527: 1, L0657: 1, | L0635: 1, L0783: 1, | L0789: 1, L0532: 1, | L0664: 1, H0691: 1, | T0068: 1, S0148: 1, | H0693: 1, H0520: 1, | H0593: 1, H0689: 1, | H0684: 1, S0330: 1, | S0380: 1, S0174: 1, | H0555: 1, L0612: 1, | L0743: 1, L0748: 1, | L0751: 1, L0749: 1, | L0779: 1, L0759: 1, | L0689: 1, S0434: 1, | L0604: 1, L0366: 1, | S0106: 1 and S0021: 1. | | S0010: 1, H0327: 1, |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Ala-1 to Gly-11, Asn-20 to Pro-25. | Pro-20 to Glu-25, |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 3825 | 3826 |
| | | | | | | | | | | | | | , | • | • | | | | | | | | | | | | 6 - 497 | 101 - 250 |
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| H0039: 1, H0622: 1, S0464: 1, L0803: 1, | H0684: 1 and H06/0: 1. | L0665: 7, L0747: 7, 1,0662: 6, 1,0766: 6 | L0655: 5, L0659: 5, | S0126: 5, L0717: 4, | H0370: 4, L0763: 4, | L0770: 4, L0646: 4, | H0521: 4, L0748: 4, | S0360: 3, H0009: 3, | S0142: 3, S0344: 3, | L0771: 3, L0774: 3, | L0775: 3, L0663: 3, | L0664: 3, L0740: 3, | L0751: 3, L0750: 3, | L0758: 3, L0601: 3, | H0265: 2, H0657: 2, | S0418: 2, S0420: 2, | S0045: 2, T0039: 2, | H0024: 2, T0010: 2, | H0413: 2, S0144: 2, | S0210: 2, L0667: 2, | L0372: 2, L0642: 2, | L0765: 2, L0653: 2, | L0383: 2, L0666: 2, | L0744: 2, L0439: 2, | L0754: 2, L0756: 2, | L0731: 2, L0599: 2, | H0543: 2, L0615: 1, |
| Lys-31 to Gly-36. | | Phe-15 to Ser-22. | | | - | | | | | | | | | | | | | | | | • | | | | | | - |
| | | 3827 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 78 - 269 | | | | | | | | | | | , | | | | | | | | | | | | | | |
| | | 1652 | | | | | | | | | | | | | • | | | | | | | | | | | | |
| | | HOPJU10R | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | HOPJU10 | | | | | | | | | | | | | | | | | | | | | | · | | | |

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| 5: 1, | 5: 1, | ; 1, | 1:1, | F.1, | .1, | .1, | 5: 1, |): 1, <u> </u> | 3: 1, | 2: 1, | 7: 1, | 3: 1, | | .1, | .1, |): 1, | l: 1, |): 1, | .1, | F. 1, | : 1, | : 1, | : 1, | : 1, | . 1, | | .1, | ; 1, | ; 1, |
| H0556: 1, H0295: 1 | S0114: 1, H0656: | L0778: 1, S0282: | H0255: 1, H0661: 1 | H0402: 1, S0354: | S0358: 1, S0376: | H0351: 1, S0222: | H0600: 1, H0586: 1 | H0333: 1, H0250: 1 | T0082: 1, H0318: | H0421: 1, H0052: | L0738: 1, H0327: | H0051: 1, H0083: | S0003: 1, S0022: | S0214: 1, H0092: | T0023: 1, L0483: | T0006: 1, H0030: | H0628: 1, H0181: 1 | H0169: 1, H0090: | H0058: 1, L0351: | T0041: 1, H0494: | S0015: 1, L0065 | S0426: 1, L0640: | L0769: 1, L0772: | L0641: 1, L0374: | L0764: 1, L0773: | L0648: 1, L0626: | L0768: 1, L0649: | L0784: 1, L0378: | L0806: 1, L0776: |
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| L0807: 1, L0657: 1, L0656: 1, L0783: 1, S0052: 1, S0428: 1, L0438: 1, H0547: 1, H0690: 1, H0682: 1, H0684: 1, H0670: 1, H0660: 1, H0670: 1, H0572: 1, H0187: 1, L057: 1, L0743: 1, L0757: 1, L0605: 1, L0590: 1, L0591: 1, L0581: 1, L0595: 1, S0026: 1, H0665: 1, H0667: 1, H0665: 1, | H0445: 13, H0255: 11, L0666: 7, H0575: 5, H0059: 4, S0344: 4, L0655: 4, H0521: 4, H0522: 4, L0748: 4, L0751: 4, H0556: 3, S0278: 3, H0013: 3, H0181: 3, H0617: 3, S0142: 3, H0658: 3, H0660: 3, L0439: 3, H0423: 3, S0116: 2, H0341: 2, S0360: 2, H0580: 2, H0581: 2, H0580: 2, H0581: 2, |
|---|--|
| | Arg-5 to His-22, Ser-59 to Ala-69. |
| | 3828 |
| | 1 - 207 |
| | 1653 |
| | HOPJX48R |
| | HOPJX48 |

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| 1664: 2, |)684: 2, | 743: 2, | 0171: 1, | 0583: 1, | 0656: 1, |)254: 1, | 0662: 1, | 408: 1, | 3392: 1, | 3333: 1, | 101: 1, | 0427: 1, |)253: 1, |)421: 1, | 0150: 1, | 0024: 1, | 0553: 1, | 0674: 1, | 163: 1, | 0616: 1, | 0026: 1, |)640: 1, | 769: 1, | 773: 1, | 659: 1, | 14: 1, | 0690: 1, | 0696: 1, | 1, L0744: 1, |
| L0663: 2, L0664: 2, | L0665: 2, H0684: 2, | L0741: 2, L0743: 2, | H0170: 1, H0171: 1, | H0265: 1, H(| H0657: 1, H(| L0470: 1, H0254: 1, | H0664: 1, H0662: 1, | S0420: 1, S0 | H0393: 1, H(| H0613: 1, H0333: 1, | L0622: 1, HC | H0250: 1, H0427: 1, | L0021: 1, HC | S0346: 1, H0 | H0596: 1, H0150: | H0620: 1, H0024: 1 | H0428: 1, H(| H0169: 1, H0674: 1, | S0366: 1, H0163: 1 | H0040: 1, H(| H0063: 1, H0026: 1, | H0517: 1, LC | L0770: 1, L0 | L0761: 1, L0773: | L0559: 1, L0 | L0790: 1, H0144: | H0593: 1, H0690: | H0709: 1, H0696: 1 | H0187: 1, LC |
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| S0031: 1 and H0543: 1. | - | • | AR096: 4, AR089: 3, | AR061: 1, AR055: 1, | AR060: 1, AR104: 1 | H0684: 2 and L0731: | 1. | | | | | | | | | | - | | | | - | H0494: 6, H0556: 5, | H0265: 3, H0656: 3, | H0618: 3, H0295: 2, | H0255; 2, H0392; 2, | H0575: 2, H0253: 2, | H0052: 2, H0024: 2, | H0617: 2, H0087: 2, |
|------------------------|-----------|-------------------|---------------------|---------------------|--------------------------------------|---------------------|---------------------|-------------------|-------------------|-------------------|------------------|-------------------|-------------------|---------------------|---------------------|-------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | Pro-35 to Arg-48. | Arg-19 to Tyr-24, | Asp-75 to Glu-87, | Asn-102 to Cys-109, AR060: 1, AR104: | Ser-113 to Lys-118, | Tyr-154 to Ser-169. | Leu-39 to Ser-51. | Ser-50 to Pro-57. | Asn-80 to Gly-86. | Pro-6 to Thr-34, | Asp-57 to Gly-62, | Gly-77 to Glu-83, | Lys-108 to Asp-116, | Met-145 to Arg-159. | Ser-72 to Ala-78, | Asp-94 to Gly-100, | Thr-104 to Asp-111, | Ser-117 to Arg-133, | Glu-138 to Lys-144, | Lys-158 to Asp-165. | Ser-33 to Pro-42, | Lys-53 to Cys-61. | | | | | |
| | 3829 | 3830 | 3831 | | | | | 3832 | 3833 | 3834 | 3832 | | | | | 3836 | | | | | | 3837 | | | | | | |
| | 273 - 395 | 2 - 163 | 2 - 676 | , | | | | 26 - 232 | 3 - 191 | 1 - 456 | 1 - 579 | | | | | 1 - 663 | | | | | | 3 - 455 | | | | | | |
| | 1654 | 1655 | 1656 | | | | | 1657 | 1658 | 1659 | 1660 | | | | | 1991 | | | | | | 1662 | | | | | | |
| | HOPJY50R | HOPJZ59R | HOPKA06R | | | | | HOPKC65R | HOPKD31R | HOPKG16R | HOPKG47R | | | | | HOPKG83R | | | | | | HOPKK38R | | | | | | |
| | HOPJY50 | HOPJZ59 | HOPKA06 | | | | | HOPKC65 | HOPKD31 | HOPKG16 | HOPKG47 | | | | | HOPKG83 | | | | | | HOPKK38 | | | | | | |

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|---------------------|---------------------|---------------------|---------------------|------------------|----------------------|---------------------|---------------------|---------------------|------------------|---------------------|---------------------|---------------------|---------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | | 14. ± 0. ± 15. ± 16. | | | | - | | | | | <u> </u> | | | | | ** | - | | | | | | | | | |
| .0565: 2, H0547: 2, | H0521: 2, L0744: 2, | .0439: 2, H0136: 2, | H0543: 2, H0224: 1, | 25: 1, H0585: 1, | S0114: 1, H0341: 1, | H0484: 1, H0483: 1, | H0671: 1, S0418: 1, | S0354: 1, S0408: 1, | 77: 1, S0045: 1, | H0261: 1, H0550: 1, | H0586: 1, H0587: 1, | H0497: 1, H0643: 1, | H0257: 1, H0559: 1, | 85: 1, H0486: 1, | S0346: 1, T0048: 1, | F0071: 1, H0309: 1, | H0041: 1, H0081: 1, | H0050: 1, H0012: 1, | H0620: 1, H0051: 1, | 38: 1, H0071: 1, | HO083: 1, H0354: 1, | H0594: 1, H0266: 1, | H0179: 1, H0271: 1, | H0292: 1, H0428: 1, | H0424: 1, H0181: 1, | H0135: 1, H0090: 1, | H0063: 1, H0488: 1, | H0433: 1, H0100: 1, | F0041: 1, S0440: 1, |
| 105 | H05 | 104 | H05 | H02 | 201 | H04 | 90H | S03; |)00S | H02 | H05 | H04 | H02 | H04 | 203 | T00 | 00H | (H00) | 90H | S0388: 1 | 00H | H05 | H01 | H02 | H04 | H01 | 00H | H04 | T00 |
| | | | - | | | | | | | | _ | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | |
| S0142: 1, H0538: 1, L0769: 1, L0764: 1, L0803: 1, L0809: 1, H0593: 1, H0683: 1, H0684: 1, H0435: 1, S0044: 1, L0747: 1, S0031: 1, H0445: 1, L0593: 1 and L0601: 1. | | | L0803: 6, L0731: 4, | S0440: 3, L0662: 3, | L0809: 3, L0665: 3, | S0276: 3, H0486: 2, | H0318: 2, L0794: 2, | L0805: 2, L0776: 2, | L0663: 2, H0684: 2, | L0740: 2, L0759: 2, | L0592: 2, H0624: 1, | L0448: 1, H0341: 1, | S0282: 1, H0663: 1, | S0360: 1, H0580: 1, | L0468: 1, H0587: 1, | H0427: 1, H0575: 1, | S0010: 1, L0471: 1, | H0644: 1, H0383: 1, | H0169: 1, L0456: 1, | H0090: 1, H0264: 1, |
| | Gly-63 to Ala-69, Gly-104 to Leu-110, Gly-130 to Gly-136. | | | | | | | | | | | | | | | | | | | |
| | 3838 | 3839 | 3840 | | | | | | | | | | | | | | | | | |
| | 2 - 460 | 22 - 483 | 170 - 319 | | | | | | | | | | | | | | | | | |
| | 1663 | 1664 | | | | | | | | | | | | | | | | - | | |
| | HOPKN14R | HOPKN67R | HOPKO04 HOPKO04RA | | | | | | | | | | | | | | | | | |
| | HOPKN14 | HOPKN67 | HOPKO04 | | | | | | | | | | | | | | | | | |

| H0412: 1, H0561: 1, S0150: 1, S0002: 1, H0529: 1, L0638: 1, L0649: 1, L0372: 1, L0649: 1, L0788: 1, L0789: 1, L0791: 1, H0519: 1, S0380: 1, H0522: 1, H0436: 1, L0757: 1, L0757: 1, L0752: 1, H0542: 1, H0542: 1, H0542: 1 | | | | | | | L0439: 15, L0666: 8, | S0222: 6, L0794: 5, | L0638: 3, L0805: 3, | L0664: 3, L0758: 3, | L0592: 3, S0010: 2, | L0770: 2, L0438: 2, | H0624: 1, H0170: 1, | S6024: 1, H0441: 1, | S0414: 1, H0052: 1, | H0572: 1, S6028: 1, |
|--|----------|-----------|-------------------|-------------------|---|----------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | Ser-19 to Arg-29, | Asp-37 to Val-43, | Ala-75 to Leu-80, Thr-96 to Arg-111. | | | | | | | | | | | |
| | 3841 | 3842 | 3843 | | | 3844 | 3845 | | | | | | | | | |
| · | 1 - 405 | 282 - 536 | 19 - 402 | | | 1-519 | 3 - 173 | | | | | | | | | |
| | 1666 | 1667 | 1668 | | | 1669 | 1670 | • | | | | | | - | | |
| | HOPKO61R | HOPKP45R | | | | HOPKQ82R | HOPKR56R | | | | | | | | | |
| | HOPKO61 | HOPKP45 | HOPKQ20 | | | HOPKQ82 | HOPKR56 | | | | | | | | | |

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|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|------------------------|-----------|----------|-----------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| H0688: 1, H0616: 1, | .0769: 1, L.0768: 1, | L0803: 1, L0774: 1, | .0776: 1, L0659: 1, | .0809: 1, L0789: 1, | .0792: 1, H0519: 1, | 10684: 1, L0745: 1, | L0747: 1, L0756: 1, | .0786: 1, L.0753: 1, | 20731: 1, L0759: 1 and | .0366: 1. | | | L0794: 16, L0809: 6, | S0360: 4, H0617: 3, | .0803: 3, S0114: 2, | H0288: 2, H0688: 2, | H0494: 2, L0375: 2, | .0731: 2, L0588: 2, | H0556: 1, S0134: 1, | 10484: 1, S0420: 1, | H0637: 1, H0441: 1, | 10370: 1, H0438: 1, | H0592: 1, T0109: 1, | S0010: 1, H0150: 1, | H0009: 1, H0081: 1, | H0271: 1, H0428: 1, | S0368: 1, H0424: 1, | H0181: 1, H0124: 1, | S0438: 1, S0440: 1, |
| | | | | <u>, res</u> | | <u></u> | <u></u> | . <u></u> | <u></u> | | | Gly-1 to Val-7. | Pro-7 to Trp-14. | <u>S.</u> | | <u>i-1-i</u> | <u>-1-1</u> | · | julai | | <u> </u> | <u>14</u> | | <u></u> | <u> </u> | <u>i-l-q</u> | <u> </u> | <u>, 14</u> | |
| | | | | | | • | | | | | 3846 | 3847 | 3848 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 2 - 274 | 2 - 136 | 237 - 551 | | | | | , | · · · · · · · · · · · · · · · · · · · | | | • | | | | | | | |
| | | | | | | | | | | | 1671 | 1672 | 1673 | | | | | | | | | | | | | | | | |
| | | | *** | | | | | | | | HOPKU33R | HOVBH23R | HOVBK37 HOVBK37R | | | | | : | | | | | | | | 726-a51 | | | |
| | | | | | | | | | | | HOPKU33 | HOVBH23 | HOVBK37 | | | | | | | | | | | | | | | | |

| S0144: 1, S0142: 1, S0344: 1, L0637: 1, L5566: 1, L0761: 1, L0764: 1, L0648: 1, L0662: 1, L0364: 1, L0766: 1, L5574: 1, L0805: 1, L0783: 1, L0647: 1, L0789: 1, L0665: 1, H0520: 1, H0547: 1, H0670: 1, H0557: 1, H0648: 1, S0380: 1, H0521: 1, L0748: 1, L0779: 1, L0788: 1, L0779: 1, L0780: 1, L0757: 1, | | | | S0360: 2, H0497: 2, H0333: 1, H0004: 1, H0428: 1, H0674: 1, S0422: 1, L0763: 1, L0803: 1, H0648: 1 and S0276: 1. | | | |
|---|------------------|--|----------|---|--------------------------------------|-----------|-------------------|
| | His-7 to Lys-20. | Glu-13 to Trp-32, Pro-34 to Asn-45. | | | Gly-1 to Glu-7, Gly-29 to Ala-36. | | Lys-63 to Ser-69, |
| | 3849 | 3850 | 3851 | 3852 | 3853 | 3854 | 3855 |
| | 3-86 | 144 - 404 | 41 - 349 | 342 - 524 | 2 - 127 | 395 - 580 | 3 - 578 |
| | 1674 | 1675 | 1676 | 1677 | 1678 | 1679 | 1680 |
| | HOVBK49R | HOVBS15R | HOVBX41R | HOVCL23R | HOVCN03R | HOVC026R | HOVCU89R |
| · | HOVBK49 | HOVBS15 | HOVBX41 | | HOVCN03 | HOVCO26 | HOVCU89 |

| | | · | | | | | • | | | | | | |
|---|--|--|-----------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | | H0615: 2, L0748: 2, H0656: 1, S0007: 1, H0486: 1, H0041: 1, H0355: 1, S0250: 1, S0003: 1, H0622: 1, H0428: 1, H0622: 1, T0042: 1, L0768: 1, L0657: 1, L0565: 1, H0702: 1, L0565: 1, H0547: 1, H0519: 1, S0152: 1, S0390: 1, L0745: 1, L0749: 1, | | | | | | , | | | | | |
| Tyr-95 to His-102, Tyr-105 to Leu-111. | Ser-15 to Tyr-21, Gly-32 to Arg-37. | · · | | Ile-32 to Arg-37. | | | | | | Asp-1 to Lys-6. | | | Pro-1 to Tyr-8, |
| : | 3856 | 3857 | 3858 | 3859 | 3860 | 3861 | 3862 | 3863 | 3864 | 3865 | 3866 | 3867 | 3868 |
| : | 1 - 471 | 2 - 226 | 333 - 551 | 53 - 220 | 110 - 289 | 34 - 204 | 1 - 270 | 37 - 498 | 24 - 257 | 253 - 393 | 92 - 184 | 74 - 154 | 3 - 365 |
| | 1681 | 1682 | 1683 | 1684 | 1685 | | 1687 | 1688 | 1689 | 1690 | | 1692 | 1693 |
| - | HOVCV33 HOVCV33R | HOVCW45R | HOVCY68R | HOVCZ45 HOVCZ45R | HOVDB43 HOVDB43R | HOVDB61 HOVDB61R | HOVDB62 HOVDB62R | HOVDB65 HOVDB65R | HOVDD26 HOVDD26R | HOVDE46 HOVDE46R | HOVDG60 HOVDG60R | HOVDG71 HOVDG71R | HOVDH09 HOVDH09R |
| | HOVCV33 | HOVCW45 | HOVCY68 | HOVCZ45 | HOVDB43 | HOVDB61 | HOVDB62 | HOVDB65 | HOVDD26 | HOVDE46 | HOVDG60 | HOVDG71 | HOVDH09 |

| | | | | L0794: 10, L0803: 7, | L0747: 6, H0657: 5, | H0597: 4, H0617: 4, | L0764: 4, L0809: 4, | L0758: 4, L0759: 4, | L0800: 3, L0804: 3, | L0775: 3, H0659: 3, | H0543: 3, H0231: 2, | L0471: 2, H0673: 2, | H0674: 2, L0763: 2, | L0770: 2, L0769: 2, | L0768: 2, L0649: 2, | L0375: 2, L0776: 2, | H0658: 2, L0750: 2, | L0779; 2, L0755: 2, | L0731: 2, L0757: 2, | L0596: 2, L0588: 2, | S0026: 2, H0170: 1, | H0483: 1, H0661: 1, | H0402: 1, H0459: 1, | S0360: 1, H0639: 1, | L0717: 1, H0392: 1, | H0607: 1, H0333: 1, | H0486: 1, H0318: 1, |
|--|-------------------|--|----------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Gln-14 to Gln-19, Arg-25 to Glu-37, | Asn-44 to Arg-50, | Glu-67 to Leu-75, Thr-105 to Gly-114. | | | | | | | | | | | | | | | | | | | <u> </u> | | | | | | |
| | | , | 3869 | 3870 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 43 - 348 | 3 - 233 | | | | | | | | | - | | - | | | | | | | | • | | | | |
| | | | 1694 | 1695 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | HOVDH75R | HOVDU91 HOVDU91R | | | | | | | | | | | | | | | | | | | | | | | |
| | | | HOVDH75 | HOVDU91 | | | | | | | | | | | | | | | | | | | | | | | |

| H0251: 1, H0184: 1, H0045: 1, H0014: 1, S0388: 1, S0051: 1, H0594: 1, H0188: 1, H0328: 1, H0428: 1, H0181: 1, H0032: 1, H0181: 1, H0667: 1, H0413: 1, H0561: 1, S0372: 1, H0647: 1, L0627: 1, L0648: 1, L0766: 1, L0774: 1, L0805: 1, L0656: 1, L0659: 1, L0666: 1, L0659: 1, L0666: 1, L0659: 1, L0666: 1, L0659: 1, L0666: 1, L0659: 1, L0668: 1, L0659: 1, L0665: 1, L0659: 1, L0665: 1, L0761: 1, L0777: 1, L0751: 1, L0777: 1, L0751: 1, L0777: 1, L0752: 1, H0445: 1, L0608: 1, L0595: 1 and | L0752: 3, L0731: 3, L0747: 2, L0753: 2, H0265: 1, S0116: 1, S0420: 1, H0428: 1, L0769: 1, L0767: 1, |
|---|---|
| H0251: 1, H0184: 1 H0045: 1, H0184: 1 S0388: 1, S0051: 1, H0594: 1, H0188: 1 H0687: 1, L0052: 1, H0181: 1, H0032: 1, H0090: 1, H0087: 1, S0372: 1, H0647: 1, S0144: 1, S0002: 1, L0627: 1, L0648: 1, L0766: 1, L074: 1, L0659: 1, L0666: 1, L0659: 1, L0666: 1, L0663: 1, L0666: 1, S0428: 1, H0689: 1, H0670: 1, H0539: 1, S0428: 1, H0689: 1, L0751: 1, L0777: 1, L0751: 1, L0777: 1, L0752: 1, H0445: 1, L0608: 1, L0595: 1 | |
| | 3871 Ile-12 to Gln-17 |
| | 1696 60 - 293 |
| | HOVDV70R |
| | HOVDV70 |

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|---|------------------------|-------------------|-----------|-------------------|---------------------------------------|-----------------------|-----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | | | | | | | | | | | | | | | | | | | | | • | |
| L0766: 1, L0775: 1, L0776: 1, H0555: 1, L0742: 1, L0748: 1, | H0428: 1 and S3014: 1. | H0428: 2 | | | | S0474: 66, L0439: 16, | H0547: 15, L0748: 15, | L0731: 10, S0360: 9, | L0770: 9, S0408: 8, | S0358: 7, L0771: 7, | L0775: 7, L0747: 6, | L0592: 6, H0428: 5, | S0438: 5, L0659: 5, | L0664: 5, L0665: 5, | L0752: 5, L0757: 5, | H0506: 5, S0007: 4, | H0549: 4, S0440: 4, | L0769: 4, L0768: 4, | L0774: 4, L0663: 4, | H0519: 4, S0152: 4, | L0750: 4, L0779: 4, | L0755: 4, L0759: 4, | L0591: 4, L0595: 4, | S0444: 3, H0510: 3, | H0615: 3, H0551: 3, |
| | Tyr-22 to Ala-28. | Gly-40 to His-48. | | Ala-20 to Gln-25. | Ser-7 to Trp-13, Phe-19 to Ala-25. | | | | | | | | | | | | | | | | | | | | |
| | 3872 | 3873 | 3874 | 3875 | 3876 | 3877 | | | | | | | | | | | | | | | - | | | | |
| | 64 - 264 | 99 - 257 | 247 - 396 | 169 - 363 | 410 - 589 | 3 - 143 | | | | | | | | | | | | | | | | | | | |
| | 1697 | 1698 | 1699 | 1700 | 1701 | 1702 | | | | | | | | | | | | | | | | | | | |
| | HOVDW60 HOVDW60R | HOVDZ66R | HOVEA43R | HOVEB25R | HOVEE84 HOVEE84R | HOVEE92R | | | | | | | | | | | | | | | | | | | |
| | HOVDW60 | HOVDZ66 | HOVEA43 | HOVEB25 | HOVEE84 | HOVEE92 | | | | | | | | | | | | | | | | | | | |

| 3, | 3, | 3, | 2, | 2, | 2, | 2, | 2, | 2, | 2, | 2, | | 2, | ., | ., | . ~ ~ | 2, | .2, | - | -,7 | ., | -,7 | 1, | 1, | 1, | 1, | 1, | - ,1 | | 1, |
|--------------------|---------------------|---------------------|------------------------|------------------|---------------------|---------------------|---------------------|------------------|--------------------|------------------|---------------------|---------------------|------------------|------------------|------------------|---------------------|------------------|---------------------|---------------------|------------------|---------------------|--------------------|------------------|------------------|------------------|--------------------|------------------|---------------------|------------------|
| H0100: 3, L0598: 3 | .0638: 3, L0766: 3, | S0380: 3, L0594: 3, | H0341: 2, S0420: 2, | S0442: 2, H0722: | .0717: 2, H0550: 2, | S0222: 2, H0587: 2, | H0574: 2, H0632: 2, | H0013: 2, H0575: | H0581: 2, H0544: 2 | 10012: 2, H0687: | H0628: 2, S0036: 2, | H0509: 2, L0637: 2, | .0764: 2, L0773: | J0803: 2, L0375: | .0806: 2, L0783: | .0666: 2, H0520: 2, | H0684: 2, H0659: | H0521: 2, L0745: 2, | .0756: 2, S0436: 2, | .0596: 2, L0593: | J0362: 2, S0194: 2, | H0543: 2, H0624: 1 | H0170: 1, H0171: | H0717: 1, H0657: | H0671: 1, H0663: | H0664: 1, H0459: 1 | S0356: 1, S0410: | H0637: 1, S0476: 1, | H0645: 1, S6026: |
| | 1 | <u> </u> | <u>. -</u> | <u> </u> | | <u>01</u> | | | | | | | | | hand | | <u>, 11</u> | <u>1</u> | 1 | 1 | 1 | <u> </u> | <u> </u> | <u>, 114</u> | -14 | | S | | <u>, 144.</u> |
| - | | | | | | | | | | | | | | | | | - | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | <u>. </u> | | | | | <u>-</u> - | | | | | · · · · · · | | | | | |
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| : 1, | 5: 1, | l: 1, | : 1, | 1; 1, | 5: 1, | 3: 1, | : 1, | t: 1, | .1, | 5: 1, | : 1, | i. 1, | : 1, |): 1, | · 1 | - | .1, | : 1, | : 1, | : 1, | : 1, | : 1, | : 1, | : 1, | : 1, | .1, | :1, | : 1, | ; 1, |
| S0300: 1, H0369: 1 | H0431: 1, H0586: 1 | H0497: 1, H0331: 1 | 1, S0049 | 1, L0738 | H0545: 1, H0046: 1, | 1, H012 | 1, L0471 | 1, H001 ² | 1, S0051 | H0356: 1, H0266: 1 | 1, H0039 | 1, T0006 | 1, \$0366 | 1, H004(| 1, S0038 | F0041: 1, H0494: 1, | 1, S0150 | L0369: 1, L0640: | 1, L5565 | 1, L0373 | 1, L0646 | L0521: 1, L0662: 1 | 1, L0651: | 1, L0776 | 1, L0657: 1 | L0526: 1, L0384: 1, | 1, L0545 | .0790: 1, L0792: | H0144: 1, L0438: 1 |
| S0300: | H0431: | H0497: | L0021: | H0184: | H0545: | H0563: 1, H0123: 1, | H0050: | H0620: | S0388: | H0356: | S0003: 1, H0039: 1, | H0622: | H0617: | H0090: | H0616: | T0041: | S0014: | L0369: | L0763: | L0761: | L0372: | L0521: | L0804: 1, 1 | L0652: 1, 1 | L0527: 1, I | L0526: | L0809: | L0790: | H0144: |
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| H0593: 1, S0126: 1, H0682: 1, H0660: 1, H0648: 1, S0328: 1, H0539: 1, S0378: 1, S0350: 1, H0696: 1, S0028: 1, S0206: 1, L0740: 1, L0777: 1, L0758: 1, S0434: 1, H0217: 1, S0192: 1, S0412: 1 and S0456: 1. | | L0750: 11, L0740: 7, | L0747: 5, H0341: 4, | L0757: 4, H0641: 3, | L0766: 3, L0748: 3, | L0754: 3, L0752: 3, | L0593: 3, H0171: 2, | S0134: 2, S0442: 2, | S0010: 2, H0428: 2, | H0538: 2, L0770: 2, | L0774: 2, L0776: 2, | L0517: 2, L0438: 2, | H0519: 2, H0684: 2, | L0777: 2, L0755: 2, | L0731: 2, L0758: 2, | S0026: 2, H0170: 1, | T0002: 1, S0114: 1, | S0116: 1, H0663: 1, | S0358: 1, S0360: 1, | S0007: 1, S0046: 1, |
| | | Gln-4 to Gln-10, | Lys-35 to Ala-60, | Pro-66 to Ser-79. | | | | | | | | | | | | | | | | |
| | 3878 | 3879 | | | | | | | | | | | | | | | | | | |
| | 288 - 497 | 1 - 393 | | | | | | | | | | | | | | | | | | |
| | 1703 | 1704 | | | | | | | | | | | | | | | | | | |
| | HOVEF34R | HOVEF81R | | | | | | | | | | | | | | | | | | |
| | HOVEF34 | HOVEF81 | | | | | | | | | | | | | | | | | | |

| H0411: 1, H0592: 1, H0486: 1, H0013: 1, L0022: 1, H0575: 1, H0581: 1, H0012: 1, H0620: 1, H0594: 1, H00398: 1, S0036: 1, H0040: 1, H0038: 1, L0475: 1, L0520: 1, L0662: 1, L0521: 1, L0652: 1, L0651: 1, L0652: 1, L0651: 1, L0661: 1, L0783: 1, L0661: 1, L0789: 1, H0670: 1, S0330: 1, H0670: 1, S0330: 1, H0539: 1, H06436: 1, S0276: 1, H0542: 1 and H0423: 1. | | L0809: 8, L0794: 5, L0439: 5, L0758: 5, H0617: 4, L0438: 4, L0754: 4, L0731: 4, |
|---|--|--|
| | Ser-9 to Gly-17, Ser-20 to Pro-26, Arg-32 to His-41. | |
| | 3880 | 3881 |
| | 3 - 290 | 160 - 468 |
| | 1705 | 1706 |
| : | HOVEG73R | HOVEJISR |
| | HOVEG73 | HOVEJIS |

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|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|--|-----------|----------|----------|
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| H0295: 3, L0776: 3, | H0619: 2, H0441: 2, | H0253: 2, H0545: 2, | H0188: 2, H0687: 2, | H0428: 2, H0424: 2, | H0213: 2, H0031: 2, | L0769: 2, L0803: 2, | L0792: 2, H0539: 2, | L0748: 2, L0745: 2, | L0747: 2, L0757: 2, | H0717: 1, H0549: 1, | S0222: 1, H0333: 1, | H0318: 1, S0049: 1, | L0738: 1, H0046: 1, | H0024: 1, H0090: 1, | H0649: 1, S0142: 1, | L0763: 1, L0642: 1, | L0764: 1, L0771: 1, | L0649: 1, L0651: 1, | L0632: 1, L0805: 1, | L0790: 1, H0144: 1, | H0723: 1, H0682: 1, | H0696: 1, H0555: 1, | S0028: 1, L0742: 1, | L0744: 1 and L0752: 1. | | | | |
| | | | | | | | • | | | | | | | | - | | | | | | | | | | Ser-13 to Val-21, Thr-45 to Ser-50. | | | |
| | | | | | | | | | | | | | | , | | | | | | | | | | | 3882 | 3883 | 3884. | 3885 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 60 - 209 | 146 - 265 | 1 - 168 | 1 - 102 |
| | | | | | | | | | | | | | | | | | | | ••• | | | | | | 1707 | 1708 | 1709 | 1710 |
| | | | | | | | | | | | | | | | | | | | | | | | | - | HOVEL51R | HOVEN79R | HOVEN86R | HOVEP45R |
| | | | | | | | | | | | | | | | | | | | | | | | • | | HOVEL51 | HOVEN79 | HOVEN86 | HOVEP45 |

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| | L0803: 7, L0748: 4, L0439: 4, L0804: 3, L0750: 3, L0756: 3, H0024: 2, L0438: 2, L0747: 2, L0779: 2, H0661: 1, S0354: 1, H0661: 1, S0354: 1, H0441: 1, H0331: 1, H0441: 1, H0331: 1, L0770: 1, L0776: 1, L0770: 1, L0776: 1, L0809: 1, L0665: 1, H0547: 1, L0749: 1, S0432: 1, L0749: 1, L0777: 1, L0780: 1, | | | | | | | | | |
| | Lys-5 to Ser-18. | Val-2 to Ser-7. | | | | Ser-5 to Gly-10, Glu-18 to Glu-32, | Ala-39 to Lys-46, | Ser-89 to Arg-96, Pro-141 to Ala-151, | Ser-162 to Gin-169. | Ala-18 to Ser-24, Gly-55 to Thr-60. |
| 3886 | 3887 | 3888 | 3889 | 3890 | 3891 | 3892 | | | | 3893 |
| 2 - 244 | 175 - 405 | 3 - 152 | 20 - 130 | 2 - 355 | 1 - 396 | 1 - 576 | | | | 1 - 186 |
| 1711 | 1712 | 1713 | 1714 | 1715 | 1716 | 1717 | | | | 1718 |
| HOVEW80 HOVEW80R | HOVEY58R | HOVFD79R | HOVJF86 HOVJF86RA | HOVJH27 HOVJH27RA | HOVJI53R | HOVJJ09R | | | | HOVJR56R |
| HOVEW80 | HOVEY58 | HOVFD79 | HOVJF86 | HOVJH27 | HOVJI53 | HOVJJ09 | | | | HOVJR56 |

| | | | | | | | | L0157: 2, H0620: 2, | L0666: 2, S0001: 1, | L0717: 1, H0549: 1, | S0222: 1, H0581: 1, | H0194: 1, H0015: 1, | H0399: 1, H0271: 1, | H0688: 1, H0428: 1, | H0124: 1, L0637: 1, | H0672: 1, L0439: 1, | L0750: 1 and H0423: 1. | , | • | | | | | | | | |
|--|---------------------|--------------------------------------|---------------|-------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|----------|
| Tyr-44 to Asp-49, Pro-132 to Leu-139, | Cys-168 to His-174. | Ala-8 to Gln-14, Arg-40 to Gln-45 | D. 47 to 1 62 | Pro-4/ to Lys-53, | Leu-93 to Lys-102, | Tyr-105 to Gln-110, | Arg-115 to Lys-124. | Ala-1 to His-13, | Leu-73 to Leu-79. | | | | | | | | | Ala-20 to Val-38, | Cys-43 to Thr-60, | Arg-91 to Lys-97. | Gln-15 to Leu-20, | Pro-37 to Thr-44. | Cys-23 to His-29, | Ser-74 to Glu-91. | Gln-8 to Tyr-14, | Pro-20 to Thr-26. | |
| 3894 | | 3895 | 2000 | 3890 | | | | 3897 | | | | | | | | | | 3898 | | | 3899 | • | 3900 | | 3901 | | 3902 |
| 49 - 684 | | 74 - 301 | 100 | 199 - 5/0 | | | | 1 - 366 | | | | | | | | • | | 2 - 487 | | | 1 - 168 | | 2 - 406 | | 323 - 511 | | 2 - 586 |
| 1719 | | 1720 | 1001 | 17/31 | | | | 1722 | | | | | | | | | | 1723 | | | 1724 | | 1725 | | 1726 | | 1727 |
| HOVJU75R | | HOVJW17R | TO YMYYOU | HOVJY 68K | | | | HOVKB02R | | | | | | | | | | HOVKE66R | | | HOVKF20R | | HOVKG18 HOVKG18R | | HPAMB11R | | HPAMB60R |
| HOVJU75 | | HOVJW17 | O MANAGE | MOVJY68 | - | | | HOVKB02 | | | | | | | - | | | HOVKE66 | | | HOVKF20 | | HOVKG18 | | HPAMB11 | | HPAMB60 |

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| L0439: 11, L0747: 8, | H0624: 6, L0759: 6, | L0779: 5, L0758: 5, | H0013: 4, L0803: 4, | L0754: 4, H0171: 3, | L0666: 3, L0756: 3, | L0752: 3, L0755: 3, | L0591: 3, L0608: 3, | H0170: 2, H0650: 2, | H0341: 2, H0663: 2, | S0360: 2, S0003: 2, | L0769: 2, L0796: 2, | L0766: 2, L0649: 2, | L0806: 2, H0696: 2, | S0028: 2, L0740: 2, | L0750: 2, L0777: 2, | S0436: 2, L0361: 2, | S0298: 1, S0418: 1, | S0444: 1, S0408: 1, | H0733: 1, H0734: 1, | S0300: 1, S0220: 1, | H0497: 1, H0333: 1, | H0270: 1, H0575: 1, | H0036: 1, H0590: 1, | H0596: 1, H0050: 1, | L0471: 1, H0015: 1, | S0388: 1, S6028: 1, | H0266: 1, H0328: 1, | H0622: 1, H0708: 1, | H0591: 1, H0040: 1, |
| 3903 Leu-12 to Ser-21. | | • | | : | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3903 | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 - 196 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | · |
| 1728 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HPAMB62 HPAMB62R | | | | | | | | | | | | | | | | | | | | | | | | | | | | , | |
| HPAMB62 | | | | | | | | | | | | | | - | | | | | | | - | | | | | | | | |

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| H0087: 1, H0412: 1, H0659: 1, S0112: 1, S01625: 1, S0440: 1, S0150: 1, S0422: 1, L0598: 1, H0529: 1, L0646: 1, L0770: 1, L0774: 1, L0774: 1, L0659: 1, L0809: 1, L0659: 1, L0809: 1, L0665: 1, S0053: 1, L0438: 1, H0682: 1, H0669: 1, H0669: 1, H0669: 1, H0659: 1, L0757: 1, H0660: 1, H0659: 1, L0757: 1, H06445: 1, S0044: 1, L0749: 1, L0757: 1, H06445: 1, S0054: 1, L0596: 1, L0594: 1, S0053: 1, H0543: 1, H0659: 1, L0757: 1, H06423: 1, H06423: 1, S0026: 1, H06423: 1, S0026: 1, H06423: 1, S00276: 1, H0529: 1, H06423: 1, S00276: 1, H0529: 1, H0529: 1, H0529: 1, H0529: 1, H0529: 1, H0529: 1, H0520: | | | | , | S0360: 15, S0358: 14, |
| 田田田の 日本日の 日本日の 日本日の 日本日の 日の 日の 日の 日の 日の 日の 日の 日の 日の | | | | | Arg-1 to Gly-6, |
| | 3904 | 3905 | 3906 | 3907 | 3908 |
| | 2 - 439 | 134 - 334 | 8 - 631 | 1 - 669 | 18 - 464 |
| | 1729 | 1730 | 1731 | 1732 | 1733 |
| | HPAMB93R | HPAMC04R | HPAMC19R | HPAMC27R | HPAMC90 HPAMC90R |
| · | HPAMB93 | HPAMC04 | HPAMC19 | HPAMC27 | HPAMC90 |

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| L0794: 12, L0747: 12, | H0696: 11, H0341: 10, | H0670: 10, H0657: 9, | S0422: 9, H0659: 8, | S0114: 7, H0656: 7, | S0408: 7, S0007: 7, | H0486: 7, H0543: 7, | S0444: 6, L0471: 6, | S0126: 6, H0658: 6, | 80378: 6, 80406: 6, | S0027: 6, H0038: 5, | H0040: 5, L0770: 5, | L0517: 5, H0648: 5, | S0404: 5, L0752: 5, | H0423: 5, H0624: 4, | H0171: 4, H0716: 4, | S0116: 4, S0410: 4, | H0545: 4, H0373: 4, | H0674: 4, L0520: 4, | L0763: 4, L0662: 4, | L0775: 4, L0493: 4, | L0518: 4, L0809: 4, | L0519: 4, S3012: 4, | H0445: 4, L0361: 4, | H0685: 3, T0049: 3, | S0420: 3, H0580: 3, | S0132:-3, T0109: 3, | H0013: 3, S0346: 3, | H0597: 3, H0615: 3, | H0616: 3, H0087: 3, |
| Pro-13 to Thr-20. | | | ٠ | | | | | | | | | | | | | | | | | | | | | | | <u> </u> | | | |
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| H0494: 3, S0440: 3, | .0769: 3, L0761: 3, | .0764: 3, L0521: 3, | .0803: 3, L0776: 3, | .0537: 3, H0144: 3, | H0682: 3, S0380: 3, | S0028: 3, L0748: 3, | .0731: 3, H0422: 3, | H0394: 2, T0002: 2, | 10159: 2, S0342: 2, | H0717: 2, S0134: 2, | H0484: 2, H0661: 2, | H0638: 2, S0442: 2, | H0637: 2, H0619: 2, | H0351: 2, H0362: 2, | S0280: 2, T0048: 2, | H0009: 2, H0012: 2, | H0014: 2, H0688: 2, | H0617: 2, H0413: 2, | .0065: 2, S0438: 2, | 30210: 2, L0767: 2, | L0522: 2, L0806: 2, | .0653: 2, L0526: 2, | .0546: 2, L0530: 2, | .0532: 2, L0666: 2, | .0665: 2, H0547: 2, | H0689: 2, H0672: 2, | H0651: 2, S0328: 2, | S0330: 2, H0710: 2, | S0152: 2, H0521: 2, |
| | <u></u> | | | | <u>- 14 </u> | S | <u>, 1</u> | <u>iLi</u> | <u>i-L-i</u> | <u>i-l-i</u> | <u>;</u> | <u>i4i</u> | <u>.</u> | <u></u> | S | <u>i-Li</u> | <u>.111</u> | <u>i-Li</u> | | S | | <u> </u> | | | trad | <u>بلز</u> | <u> </u> | <u>0</u> | S |
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| S0032: 2, | L0750: 2, | L0588: 2, L0603: 2, | H0170: 1, | H0713: 1, | S6024: 1, | H0294: 1, | S0110: 1, | H0305: 1, | H0722: 1, | S0046: 1, | S0300: 1, | S0222: 1, | H0370: 1, | H0592: 1, | H0333: 1, | L0586: 1, | H0098: 1, | L0563: 1, | H0421: 1, | H0309: 1, | H0231: 1, | H0123: 1, | L0163: 1, | H0399: 1, | H0266: 1, | S0312: 1, | H0428: 1, | Т0006: 1, | H0606: 1, |
| S0390: 2, S0032: 2, | L0742: 2, | L0588: 2, | S0026: 2,] | H0395: 1, H0713: 1, | S0402: 1, | H0295: 1, H0294: 1, | S0218: 1, | H0402: 1, | S0418: 1,] | H0728: 1, | S0476: 1, S0300: 1, | H0462: 1, S0222: 1 | H0385: 1, | H0404: 1, H0592: | H0497: 1, H0333: | L0623: 1, | T0060: 1, H0098: 1, | H0318: 1, | H0581: 1, | H0251: 1, | H0596: 1, H0231: | H0150: 1, H0123: | H0620: 1, | S0051: 1, H0399: | H0354: 1, | S0334: 1, S0312: 1, | S0214: 1, H0428: | L0483: 1, T0006: 1 | H0553: 1, H0606: 1 |
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| H0212: 1, H0124: 1, | H0090: 1, H0059: 1, | F0004: 1, T0041: 1, | H0560: 1, H0625: 1, | H0561: 1, H0366: 1, | H0509: 1, H0633: 1, | S0472: 1, H0647: 1, | H0646: 1, H0649: 1, | S0142: 1, H0529: 1, | | L0640: 1, L0501: 1, | 3904: 1, L0771: 1, | ` — ` | • | .0499: 1, L0651: 1, | .0555: 1, L0514: 1, | L0783: 1, L0529: 1, | L0791: 1, L0664: 1, | S0374: 1, H0691: 1, | H0684: 1, H0435: 1, | H0660: 1, H0666: 1, | H0539: 1, H0524: 1, | H0704: 1, S0044: 1, | S0146: 1, H0134: 1, | H0436: 1, S0392: 1, | S3014: 1, L0753: 1, | L0755: 1, L0759: 1, | S0031: 1, S0260: 1, | H0444: 1, H0595: 1, | L0599: 1, L0608: 1, |
| | H | | | | . | <u> </u> | Ha | <u> </u> | <u> </u> | <u> </u> | <u></u> | <u> </u> | | Ţ | <u> </u> | . <u>.</u> | | <u></u> | <u></u> | <u> </u> | <u> </u> | | <u> </u> | | <u> </u> | | | | _ |
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|---------------------|---------------------|----------------------------------|-------------------|---------------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| H0653: 1, S0242: 1, | S0194: 1, S0196: 1, | H0352: 1, H0300: 1 and H0352: 1. | | | | L0731: 9, L0653: 8, | L0757: 6, L0809: 5, | L0747: 5, S0418: 4, | S0360: 4, H0188: 4, | S0404: 4, L0779: 4, | S0040: 3, H0370: 3, | H0040: 3, L0774: 3, | S0434: 3, S0442: 2, | H0575: 2, H0252: 2, | S0440: 2, L0374: 2, | L0773: 2, H0435: 2, | S0406: 2, L0748: 2, | L0740: 2, L0754: 2, | L0746: 2, L0758: 2, | L0581: 2, H0624: 1, | H0686: 1, S0180: 1, | H0661: 1, S0358: 1, | S0476: 1, L0717: 1, | H0549: 1, H0455: 1, | H0586: 1, H0632: 1, | S0280: 1, H0599: 1, | H0118: 1, H0235: 1, |
| | | | Glu-10 to Phe-17, | Phe-25 to Leu-32, Thr-38 to Tur-44 | Gln-81 to Thr-88. | Gly-60 to Phe-66. | | | | | | | | | | | • | | | | | | | | | | |
| | | | 3909 | | | 3910 | | | | | | | | | | | | | | | | | | | | | |
| | , | | 1 - 504 | , | | 2-277 | | | | | | | | | | | | | | | | | | | | | |
| | | | 1734 | | | 1735 | | | | | | | | | | | | | | | | | | | | | |
| | | | HPAMD56R | | | HPAME35R | | | | | | | | | | | | | | | | | | | | | |
| | | | HPAMD56 | | | HPAME35 | | | | | | | | | | | | | | | | | | | | | |

| H0597: 1, H0545: 1, T0003: 1, H0510: 1, S0314: 1, H0039: 1, L0194: 1, T0086: 1, H0606: 1, H0032: 1, H0674: 1, H0708: 1, H0598: 1, H0644: 1, H0100: 1, S0344: 1, L0763: 1, L4497: 1, L0763: 1, L0764: 1, L0771: 1, L0364: 1, L0771: 1, L0364: 1, L0771: 1, L0364: 1, L0657: 1, L0806: 1, L0657: 1, H0699: 1, H0690: 1, H0689: 1, H0690: 1, H0689: 1, H0670: 1, H0689: 1, L0744: 1, L0750: 1, | H0665: 1, H0667: 1 and S0196: 1. | H0663: 1, L0438: 1 and H0682: 1. | |
|---|----------------------------------|----------------------------------|------------------|
| | | Lys-1 to Leu-12. | Glu-1 to Gly-8. |
| | | 3911 | 3912 |
| | | 184 - 492 | 19 - 513 |
| | | 1736 | 1737 |
| | • - | HPAME58R | HPAMF16 HPAMF16R |
| | | HPAME58 | HPAMF16 |

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| L0752: 12, L0748: 8, | L0766: 5, L0599: 5, | H0617: 4, L0764: 4, | H0081: 3, L0774: 3, | L0806: 3, L0776: 3, | L0749: 3, L0750: 3, | S0444: 2, S0408: 2, | H0392: 2, H0150: 2, | H0494: 2, H0521: 2, | L0756: 2, L0758: 2, | H0506: 2, H0352: 2, | H0265: 1, H0483: 1, | S0358: 1, L0021: 1, | H0108: 1, H0024: 1, | H0083: 1, S0366: 1, | H0090: 1, H0038: 1, | H0040: 1, T0041: 1, | L0763: 1, L0770: 1, | L3905: 1, L0772: 1, | L0644: 1, L0645: 1, | L0771: 1, L0775: 1, | L0651: 1, L0378: 1, | L0659: 1, L0666: 1, | L0665: 1, L0438: 1, | H0519: 1, H0682: 1, | H0670: 1, S0188: 1, | L0740: 1, L0747: 1, | L0777: 1, L0759: 1, | H0445: 1, L0596: 1, | L0604: 1 and H0542: 1. |
| Ser-35 to Gly-41, | Ser-71 to Met-80. | | | | | | | | | | | | | | | | - | | | | | | | | | | | | |
| 3913 | | | | | | | | | | | | | - | | | | | | | | | | | | | | | , | |
| 24 - 449 | • | | | | | | | | | | | | | | | | | | | | | | | | | | | - | , |
| 1738 | | | | | | | | | | | | | | | • | | | | | | | | | | | | | • | |
| HPAMF38 HPAMF38R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HPAMF38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|--------------------|--------------------|---|--|--|----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-----------|-------------------|---------------------|
| | | | | | | L0777: 5, L0766: 3, | L0803: 3, L0439: 3, | S0360: 2, L0598: 2, | L0666: 2, L0748: 2, | T0049: 1, S0134: 1, | S0116: 1, L0717: 1, | H0586: 1, H0486: 1, | H0575: 1, H0510: 1, | H0553: 1, H0560: 1, | S0422: 1, L0763: 1, | L0769: 1, L0521: 1, | L0767: 1, L0768: 1, | L0775: 1, L0663: 1, | S0374: 1, L0438: 1, | H0520: 1, H0682: 1, | S0328: 1, L0740: 1, | L0757: 1, S0192: 1 and | H0543: 1. | , | S0358: 8, L0777: 6, |
| | | Lys-13 to Tyr-30, Arg-52 to Lys-57, Ser-72 to Thr-79, | Thr-110 to Trp-115, Leu-124 to Ala-130, | Leu-132 to Glu-138, Asn-141 to Lys-162. | | | | | | | | | | | | | | | | | | | | Pro-18 to Lys-24. | Thr-27 to Lys-37. |
| 3914 | 3915 | 3916 | | | 3917 | 3918 | | - | | | | | | | | | | | | | | - | | 3919 | 3920 |
| 385 - 666 | 3 - 410 | 2 - 670 | | | 2 - 472 | 100 - 246 | | | | | | | | | | | | | | | | | | 2 - 190 | 327 - 509 |
| 1739 | 1740 | 1741 | | | 1742 | 1743 | | | | | · | | | | | | | | | | | | | 1744 | 1745 |
| HPAMG44 HPAMG44R | HPAMG54 HPAMG54R | HPAMI11R | | | HPAMJ71R | HPAMQ47R | | | | | | | | | | | | | | | | | | HPAMQ76 HPAMQ76R | HPAMT47R |
| HPAMG44 | HPAMG54 | HPAMI11 | | | HPAMJ71 | HPAMQ47 | | | | | | 1 | | | | | | | | | | | | HPAMQ76 | HPAMT47 |

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| L0744: 4, H0656: 3, | .0766: 3, H0659: 3, | H0436: 3, L0754: 3, | , L0731: 3, | S0026: 3, H0254: 2, | S0007: 2, H0587: 2, | .0586: 2, H0545: 2, | 2, L0794: 2, | H0144: 2, L0750: 2, | .0608: 2, S0412: 2, | H0170: 1, H0638: 1, | S0420: 1, S0442: 1, | , H0329: 1, | S0045: 1, H0645: 1, | H0586: 1, H0333: 1, | , H0013: 1, | H0250: 1, L0105: 1, | H0581: 1, H0196: 1, | H0263: 1, H0546: 1, | H0457: 1, L0157: 1, | L0471: 1, S0051: 1, | , S0214: 1, | H0428: 1, H0032: 1, | H0166: 1, H0673: 1, | H0561: 1, S0440: 1, | , L0764: 1, | , L0804: 1, | , T0068: 1, | H0547: 1, H0519: 1, | H0593: 1, H0690: 1, |
| L0744: 4 | L0766: 3 | H0436: 3 | L0747: 3 | S0026: 3 | S0007: 2 | L0586: 2 | H0150: 2 | H0144: 2 | L0608: 2 | H0170: 1 | S0420: 1 | S0444: 1 | S0045: 1 | H0586: 1 | H0574: 1 | H0250: 1 | H0581: 1 | H0263: 1 | H0457: 1 | L0471: 1 | S0336: 1 | H0428: 1 | H0166: 1 | H0561: 1 | L0763: 1 | L0803: 1 | L0776: 1 | H0547: 1 | H0593: 1 |
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| | | | | | | | | | | | | | | | | | | | | | |
| H0682: 1, H0435: 1, H0670: 1, H0666: 1, H0672: 1, S0328: 1, H0696: 1, L0751: 1, L0749: 1, L0756: 1, L0780: 1, L0757: 1, L0759: 1, H0543: 1, H0423: 1 and H0422: 1. | | | L0742: 11, L0747: 10, | L0769: 9, L0766: 9, | L0754: 8, L0751: 7, | L0777: 7, L0752: 7, | L0806: 6, L0776: 6, | L0743: 6, L0717: 4, | L0665: 4, L0750: 4, | S0360: 3, H0580: 3, | H0318: 3, H0052: 3, | L0471: 3, H0040: 3, | T0042: 3, H0547: 3, | H0682: 3, L0745: 3, | L0779: 3, L0759: 3, | L0593: 3, L0601: 3, | H0624: 2, H0556: 2, | S0045: 2, H0559: 2, | H0013: 2, H0530: 2, | H0046: 2, H0620: 2, | S0051: 2, T0010: 2, |
| · | Lys-59 to Tyr-70, Pro-109 to Lys-115. | Gln-34 to Asn-39. | Gly-1 to Arg-13, | Glu-37 to Lys-42, | Gly-45 to Gln-64. | | | | | | | | | | | | | | | | |
| | 3921 | 3922 | 3923 | | | | | | | | | | | | | | | | | | |
| | 2 - 520 | 207 - 422 | 1 - 357 | | | | | | | | | | | | | | | | | , | |
| | 1746 | 1747 | 1748 | | | | | | | | | | | | | | | | | | |
| | HPAMU33R | HPAMV82R | HPAMW44 HPAMW44R | | | | | | | | | | | | | | | | | | |
| | HPAMU33 | HPAMV82 | HPAMW44 | | | | | | | | | | | | | | | | | | |

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H0083: 2, S0002: 2, | .0770: 2, L0659: 2, | 520: 2, S0292: 2, | .0744: 2, L0740: 2, | L0758: 2, L0596: 2, | 349: 1, L0393: 1, | 001: 1, H0663: 1, | 306: 1, H0638: 1, | 120: 1, S0358: 1, | 32: 1, H0619: 1, | H0645: 1, H0550: 1, | 22: 1, H0392: 1, | 438: 1, H0257: 1, | 39: 1, T0040: 1, | 280: 1, H0156: 1, | 575: 1, H0618: 1, | 253: 1, S0010: 1, | H0581: 1, H0194: 1, | 204: 1, H0150: 1, | H0123: 1, H0292: 1, | 194: 1, T0023: 1, | 331: 1, H0553: 1, | 517: 1, H0673: 1, | 169: 1, H0674: 1, | 390: 1, H0269: 1, | H0623: 1, H0494: 1, | 475: 1, S0150: 1, | H0538: 1, L0763: 1, | .0638: 1, L.0761: 1, | .0646: 1, L0645: 1, |
|)0H | <u> </u> |)OH HO; | <u> </u> | <u>[0]</u> | 100 |) No. | :0H | <u>S</u> 04 | S01 | ЮH | . S02 | 70H | <u>T00 </u> | 802 | :0H | ZOH HIOZ | HO; | (H) | (OH | <u> </u> | HOU | ЮH | IOH HO |)OH | HOC | L04 |)OH | 100 | T06 |
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| L0771: 1, L0803: 1, L0774: 1, L0775: 1, L0651: 1, L0657: 1, L0658: 1, L0545: 1, L0664: 1, H0144: 1, H0593: 1, S0126: 1, H0521: 1, H0522: 1, S0044: 1, S0406: 1, S0027: 1, L0741: 1, L0439: 1, L0741: 1, L0439: 1, L0755: 1, L0485: 1, L0603: 1, S0011: 1, H0668: 1, | | | L0493: 91, L0515: 29, L0509: 25, L0514: 21, L0803: 12, L0508: 8, L0604: 7, H0599: 6, L0809: 5, H0445: 5, L0800: 4, L0511: 4, L0362: 4, H0543: 4, |
| | Pro-1 to Cys-6, Ala-13 to Ala-19, His-22 to Lys-28, Ser-44 to Cys-53, Pro-56 to Gly-67. | Trp-19 to Ser-27, Pro-185 to Ser-195. | · |
| | 3924 | 3925 | 3926 |
| | 291 - 569 | 2 - 628 | 3 - 149 |
| • | 1749 | 1750 | 1751 |
| | HPAMY45R | HPAMZ14R | HPAMZ15R |
| | HPAMY45 | HPAMZ14 | HPAMZ15 |

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| H0657: 3, L0598: 3, | L0498: 3, L0805: 3, | L0780: 3, L0755: 3, | L0731: 3, L0759: 3, | L0591: 3, S0026: 3, | H0170: 2, H0373: 2, | H0038: 2, H0623: 2, | H0494: 2, H0560: 2, | H0561: 2, L0503: 2, | L0651: 2, L0653: 2, | L0776: 2, L0792: 2, | H0520: 2, H0555: 2, | S0206: 2, L0748: 2, | L0749: 2, L0756: 2, | L0779: 2, L0590: 2, | L0608: 2, H0668: 2, | H0422: 2, S0040: 1, | S0114: 1, S0134: 1, | S0218: 1, H0656: 1, | S0212: 1, S0360: 1, | H0489: 1, H0580: 1, | S0045: 1, S0476: 1, | H0431: 1, H0643: 1, | L0623: 1, H0486: 1, | H0069: 1, H0002: 1, | H0097: 1, H0274: 1, | S0474: 1, H0421: 1, | L0040: 1, H0024: 1, | S0003: 1, H0622: 1, | H0553: 1, H0032: 1, |
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| H0388: 1, H0400: 1, S0036: 1, H0400: 1, H0551: 1, H0264: 1, H0412: 1, S0386: 1, T0042: 1, H0625: 1, S0210: 1, H0625: 1, L0506: 1, L0506: 1, L0506: 1, L0704: 1, L0662: 1, L0704: 1, L0662: 1, L0704: 1, L0663: 1, L0704: 1, L0664: 1, L0664: 1, L0664: 1, L0666: 1, L0664: 1, L0664: 1, L0666: 1, L0664: 1, L0664: 1, L0666: 1, L0664: 1, L0666: 1, L0664: 1, L0664: 1, L0666: 1, L0664: 1, L0666: 1, L0664: 1, L0666: 1, L0664: 1, L0666: 1, L0664: 1, L0664: 1, L0703: 1, H0672: 1, H0680: 1, H0672: 1, H0696: 1, S0146: 1, S0390: 1, L0747: 1, L0753: 1, S0242: 1, S0194: | S0276: 1, H0542: 1 and S0424: 1. | · |
|--|----------------------------------|--|
| | | Ser-1 to Lys-25, Glu-71 to Ser-77, Glu-93 to Thr-99, |
| | | 3927 |
| | | 3 - 677 |
| | | 1752 |
| | | HPAMZ81R |
| | | HPAMZ81 |

| | | | · | | | | | H0497: 5, S0002: 5, | H0529: 5, H0556: 4, | H0046: 3, L0455: 3, | T0042: 3, H0520: 3, | H0543: 3, H0265: 2, | H0657: 2, H0656: 2, | H0458: 2, S0358: 2, | H0486: 2, H0050: 2, | H0124: 2, H0591: 2, | H0494: 2, L0662: 2, | H0522: 2, L0740: 2, | L0751: 2, L0747: 2, | L0588: 2, L0605: 2, | H0667: 2, H0686: 1, | H0650: 1, H0664: 1, | H0125: 1, S0418: 1, | H0580: 1, S6014: 1, | H0257: 1, H0559: 1, | H0635: 1, H0427: 1, | H0575: 1, H0052: 1, | N0006: 1, L0471: 1, | H0373: 1, H0083: 1, |
|---------------------|---------------------|---------------------|-------------------|-------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Arg-123 to His-134, | Pro-141 to His-146, | His-198 to Ala-207. | Thr-23 to Gln-35, | His-37 to Val-51, | Arg-70 to Arg-81, | Gln-108 to Asp-114, | Met-130 to Ser-140. | Ala-1 to Thr-6, | Lys-19 to Leu-24, | Ile-77 to Ala-93, | Val-105 to Leu-110, \textbf{\text{F0042}}: 3, \text{H0520}: 3, | Thr-139 to Thr-153, | | | Ser-211 to Lys-226. | | | | | | | | | • | | | | | |
| | | | 3928 | | | | | 3929 | | | | | | | | | | | | | | | | | | | | | |
| | | | 2 - 514 | | | | | 1 - 720 | | | | | | | | | | | | | | | | | | | | | |
| | | | 1753 | | | | | 1754 | | | | | | | | | | | | | | | | | | | | | |
| | | | HPANA05R | | | | | HPANA07R | | | | | • | | | | | | | | | | | | | , | | | |
| | | | HPANA05 | | | | | HPANA07 | | | | | | | | | | | | | | | | | _ | | | | |

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| H0266: 1, S0250: 1, S0022: 1, H0428: 1, H0031: 1, H0383: 1, H0212: 1, S0366: 1, S0036: 1, H0040: 1, H0634: 1, H0561: 1, S0210: 1, L0770: 1, L0761: 1, L0772: 1, L0641: 1, L0644: 1, L0764: 1, L0776: 1, L0655: 1, L0807: 1, L0657: 1, L0665: 1, S0148: 1, S0126: 1, H0682: 1, H0694: 1, S0037: 1, L0744: 1, L0750: 1, L0748: 1, L0750: 1, L0755: 1, L0750: 1, L0755: 1, L0731: 1, S0436: 1, L0601: 1, S0276: 1, H0423: 1, S0424: 1 and S0446: 1 | | | | | | | |
| | Gln-22 to Thr-31, Leu-91 to Leu-104. | Gln-13 to Gly-28. | | Leu-1 to Ser-8. | | Lys-64 to Tyr-75, | Pro-114 to Lys-120, Leu-160 to Lys-169, |
| · | 3930 | 3931 | 3932 | 3933 | 3934 | 3935 | |
| | 2-376 | 494 - 730 | 2 - 247 | 255 - 446 | 2 - 412 | 1-666 | |
| · | 1755 | 1756 | 1757 | 1758 | 1759 | 1760 | |
| | HPANA28R | HPANA87R | HPANB32R | HPANC01R | HPANE49R | HPANE52R | |
| | HPANA28 | HPANA87 | HPANB32 | HPANC01 | HPANE49 | HPANE52 | |

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|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L0752: 10. L0593: 9. | L0775: 8, L0588: 8, | L0666: 7, L0665: 7, | L0592: 7, L0595: 7, | L0363: 6, L0774: 6, | L0747: 6, L0362: 6, | H0422: 6, L0455: 5, | L0659: 5, H0539: 5, | H0170: 4, S0360: 4, | L0657: 4, H0547: 4, | L0749: 4, L0779: 4, | L0757: 4, H0657: 3, | H0412: 3, L0520: 3, | L0761: 3, L0646: 3, | L0375: 3, L0651: 3, | L0783: 3, H0144: 3, | H0520: 3, H0659: 3, | H0670: 3, H0648: 3, | L0740: 3, L0750: 3, | L0756: 3, L0731: 3, | L0759: 3, L0591: 3, | L0608: 3, H0662: 2, | S0376: 2, H0637: 2, | H0619: 2, L0717: 2, | S0280: 2, H0318: 2, | T0010: 2, H0040: 2, | H0413: 2, L0351: 2, | H0646: 2, L0763: 2, |
| Tyr-172 to Gln-177, | 110-102 to val-102. | • | | | | | | | | | | | | | | | | | | | | | | | ٠ | | | |
| | 3936 | | | : | | | | | | | | | | | | | | | | | | | | | | | | |
| | 119 - 652 | | | | | | | | | | | | | | - | ,, | | | | | | | | | | | | , |
| | 19/1 | | • | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HPANE87R | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HPANE87 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| L0521: 2, L0784: 2, | L0655: 2, L0382: 2, | L0809: 2, L0664: 2, | H0682: 2, H0658: 2, | H0672: 2, L0439: 2, | L0755: 2, L0589: 2, | L0604: 2, S0424: 2, | H0624: 1, H0686: 1, | H0685: 1, S0040: 1, | H0716: 1, H0341: 1, | H0580: 1, S0468: 1, | S6026: 1, H0351: 1, | H0392: 1, L0623: 1, | Г0060: 1, Н0069: 1, | H0427: 1, T0048: 1, | F0071: 1, S0049: 1, | H0052: 1, L0471: 1, | S0388: 1, S0051: 1, | S0003: 1, T0006: 1, | L0055: 1, H0169: 1, | S0036: 1, T0067: 1, | H0059: 1, H0494: 1, | H0560: 1, S0372: 1, | S0002: 1, L0371: 1, | L0637: 1, L0627: 1, | L0772: 1, L0764: 1, | L0662: 1, L0767: 1, | L0768: 1, L0649: 1, | L4500: 1, L0650: 1, | L0378: 1, L0806: 1, |
| | | | | | | | | <u> </u> | | | <u> </u> | <u> </u> | | | | | | <u></u> | | <u>U1</u> | | | <u> </u> | . | | . H. | . | -=- | |
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| L0633: 1, L0628: 1, L0517: 1, L0518: 1, L0789: 1, L0663: 1, L0352: 1, H0684: 1, H0435: 1, H0666: 1, S0330: 1, S0378: 1, S0380: 1, S0152: 1, H0134: 1, S0406: 1, H0436: 1, L0612: 1, L0742: 1, L0748: 1, L0751: 1, S0031: 1, L0599: 1, L0601: 1, S0026: 1, H0542: 1, H0543: 1 and H0423: 1. | | H0328: 2, H0674: 2, L0774: 2, L0805: 2, H0682: 2, L0731: 2, H0306: 1, L0770: 1, L0764: 1, L0809: 1, H0520: 1, H0660: 1, H0521: 1, L0744: 1, L0751: 1, L0750: 1, L0752: 1, S0026: 1, | | | H0659: 2 |
|---|---------------------------------------|---|----------|----------|-----------------|
| | Ser-5 to Ser-14, Gln-21 to Gln-28. | | | | Pro-1 to Val-6, |
| ; | 3937 | 3938 | 3939 | 3940 | 3941 |
| | 3 - 119 | 170 - 310 | 2 - 139 | 47 - 118 | 3 - 308 |
| | 1762 | 1763 | 1764 | 1765 | 1766 |
| | HPANJ67R | HPANK61R | HPCOB29R | HPCOB69R | HPCOJ59R |
| | HPANJ67 | HPANK61 | HPCOB29 | HPCOB69 | HPCOJ59 |

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| | , | | H0591: 62, S0242: 15, | L0754: 11, S0003: 9, | S0196: 8, L0766: 7, | H0144: 6, L0740: 6, | L0664: 5, S0420: 4, | H0393: 4, L0803: 4, | H0428: 3, H0509: 3, | H0641: 3, L0777: 3, | L0595: 3, L0362: 3, | S0360: 2, H0013: 2, | L0471: 2, L0163: 2, | H0355: 2, H0553: 2, | S0036: 2, L0662: 2, | L0804: 2, S0374: 2, | L0438: 2, S0126: 2, | L0748: 2, L0755: 2, | L0485: 2, S0412: 2, | H0341: 1, S0376: 1, | H0580: 1, S0045: 1, | H0331: 1, T0039: 1, | F0060: 1, H0427: 1, | L0021: 1, H0590: 1, | H0318: 1, H0194: 1, | H0563: 1, H0572: 1, | H0051: 1, H0083: 1, | S6028: 1, S0312: 1, |
| Asp-51 to Phe-56, | Asp-83 to Gly-88, Ser-94 to Glu-102. | | Ile-12 to Cys-18. | | | | | | | | | <u> </u> | | | <u> </u> | | | | | | | | | | | | | 94 |
| | | 3942 | 3943 | | | | | | | | | | | | | | | : | | | | | | | | | | |
| | | 197 - 346 | 426 - 557 | | | | | | | | | | | | | • | | | | | | | | | | | | |
| | | 1767 | 1768 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | HPCOK72R | HPCOK73R | | | | | | - | | | | | | | | | | | | | | | | | | | |
| | | HPCOK72 | HPCOK73 | | | | | | | | | | | | | | | | | - | | | | | | | | |

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| S0214: 1, H0031: 1, H0628: 1, H0598: 1, H0038: 1, H0634: 1, H0616: 1, H0551: 1, H0412: 1, L0370: 1, H0494: 1, H0625: 1, | L0805: 1, L0657: 1, L0782: 1, L0663: 1, L0665: 1, H0547: 1, H0519: 1, H0711: 1. | H0659: 1, H0660: 1, H0518: 1, S0152: 1, H0521: 1, L0745: 1. | L0759: 1, S0434: 1, L0590: 1, L0592: 1, L0594: 1, H0667: 1, H0423: 1, H0422: 1, | S0424: 1 and H0506: 1. | | | |
| | | | | | Lys-42 to Val-49. Ala-3 to Gly-9. | Tyr-12 to Ile-17, Pro-28 to Asn-33, Arg-45 to Asp-53. | |
| | | | | 3944 | 3945 3946 | 3947 | 3948 |
| | | | | 1 - 108 | 3-179 | 343 - 2 | 2 - 427 |
| | | | | 1769 | 1770 | 1772 | 1773 |
| | | | | HPCOK93R | HPCOC81R HPCOO90R | HPCO095R | HPCOP23R |
| | | | | НРСОК93 | HPCOL81 HPCO090 | HPC0095 | HPCOP23 |

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| | | | | | - | | | | | | | | | | | | | | | | | | | | | | | | |
| | L0803: 8, L0777: 8, | L0794: 7, L0766: 7, | H0144: 5, L0438: 5, | H0547: 5, L0439: 5, | H0013: 4, L0779: 4, | H0441: 3, S0440: 3, | L0762: 3, L0771: 3, | L0662: 3, L0666: 3, | L0665: 3, L0748: 3, | L0752: 3, H0656: 2, | H0341: 2, S0418: 2, | S0356: 2, H0575: 2, | H0328: 2, H0615: 2, | H0040: 2, H0477: 2, | T0041: 2, L0598: 2, | L0763: 2, L0659: 2, | L0663: 2, L0664: 2, | H0659: 2, L0602: 2, | S0406: 2, L0755: 2, | L0759: 2, L0592: 2, | H0624: 1, H0170: 1, | H0171: 1, S0134: 1, | H0583: 1, H0650: 1, | H0657: 1, L0415: 1, | S0116: 1, H0661: 1, | H0664: 1, S0420: 1, | L0005: 1, S0444: 1, | S0360: 1, S0408: 1, | S0046: 1, S0476: 1, |
| | - | | | | • | | | | | | | | | | | | | | | | | | | | | | | | |
| 3949 | 3950 | | | | | • | | | | | | | - | | | | | | | | | | | | | | | • | |
| 417 - 548 | 2 - 259 | | | | | | • | | | | | | | | | | | • | | | | | | | | | | , | |
| 1774 | 1775 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HPCOQ33 HPCOQ33R | HPCOQ85R | | | | - | | | | | | | | | | | | | | | | | | | | | | | | |
| HPCOQ33 | HPC0Q85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| S0300: 1, L0717: 1, | H0411: 1, H0486: 1, | T0039: 1, H0318: 1, | H0581: 1, H0123: 1, | H0014: 1, H0354: 1, | H0179: 1, S0003: 1, | H0628: 1, H0032: 1, | S0036: 1, L0060: 1, | H0264: 1, H0412: 1, | .0564: 1, H0625: 1, | H0131: 1, H0646: 1, | S0002: 1, L0770: 1, | | .0649: 1, L0804: 1, | L0650: 1, L0519: 1, | L0352: 1, H0519: 1, | S0126: 1, H0658: 1, | H0648: 1, H0672: 1, | S0328: 1, S0330: 1, | H0518: 1, H0696: 1, | H0704: 1, S0027: 1, | L0743: 1, L0754: 1, | L0747: 1, L0758: 1, | S0434: 1, L0591: 1, | S0011: 1, H0543: 1, | H0422: 1, H0506: 1 and | H0721: 1. | | |
| | | - k | | | | | <u> </u> | | | | | | | | | | | .92 | | | | | | | | | | Ala-44 to Gly-50. |
| | | | | | | | | | | | | | | | | | | | | | | | 2 | - | | | 3951 | 3952 |
| | | | | | | | | | | | - | · | | | | | | | | | | | | | | | 483 - 641 | 133 - 396 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 1776 | 1777 |
| | | | | | | | | | | | | - | | | | | | | | | | | | | | | HPCOQ92R | HPCOR41R |
| | | ٠ | | | | | | | | | | | | | | | | | | | | | | | | | HPC0092 | HPCOR41 |

| | S0414: 16, S0360: 6, | S0358: 5, L0766: 5, | H0574: 4, H0521: 4, | L0754: 4, L0756: 4, | S0422: 3, L0770: 3, | H0547: 3, H0672: 3, | L0596: 3, H0251: 2, | H0615: 2, H0090: 2, | L0646: 2, L0662: 2, | L0776: 2, L0659: 2, | L0752: 2, L0758: 2, | \$0436: 2, L0595: 2, | H0624: 1, L0002: 1, | H0583: 1, H0650: 1, | S0116: 1, S0298: 1, | S0282: 1, S0418: 1, | H0722: 1, H0734: 1, | S0045: 1, S0300: 1, | L0717: 1, S0222: 1, | H0013: 1, L0021: 1, | H0706: 1, L0105: 1, | H0263: 1, L0041: 1, | H0057: 1, S0050: 1, | L0163: 1, H0051: 1, | 50388: 1, 50051: 1, | H0271: 1, S0003: 1, | H0644: 1, H0032: 1, | H0673: 1, H0379: 1, | H0272: 1, H0059: 1, |
|----------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
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| 3953 | 3954 | | | | | | | | | | | - | | | | | | | | | | | | | | | | | |
| 43 - 432 | 137 - 355 | | • ; • | | | | | | | | | | | | | | | , | | | | - | | - Jep - | | | | | |
| 1778 | 1779 | | | | | | | | | | | | | , | • | | | | | | | | - | | | | | | · |
| HPCOR52R | HPCOU70R | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HPCOR52 | HPCOU70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| H0130: 1, H0647: 1, S0210: 1, S0426: 1, H0529: 1, L0637: 1, L0372: 1, L0649: 1, L0806: 1, L0651: 1, L0518: 1, L0788: 1, L0666: 1, L0788: 1, L0666: 1, H0144: 1, L0438: 1, H0519: 1, H0689: 1, R080: 1, H0696: 1, S0406: 1, H0727: 1, L0439: 1, L0731: 1, H0595: 1, S0434: 1, L0608: 1, | H066/: 1, 50196: 1, H0422: 1, S0424: 1 and H0506: 1. | | | L0439: 3, L0438: 1, H0659: 1, H0648: 1 and S0330: 1. | | H0551: 11, L0766: 10, L0794: 8, S0026: 7, |
|---|--|----------------------|---------------------------------------|--|----------|--|
| | | Lys-4 to Lys-16. | Asn-9 to Trp-14, Pro-20 to Arg-46. | | | |
| | | 3955 | 3957 | 3958 | 3959 | 3960 |
| | | 151 - 657 | 158 - 418 | 294 - 473 | 3 - 314 | 308 - 427 |
| | | 1780 | 17 | 1783 | 1784 | 1785 |
| | | HPCOV35R HPCOV41B | HPCOX43R | HPCPB38R | HPCPD26R | HPCPE33R |
| | | HPCOV35 | _ | нРСРВ38 | HPCPD26 | нРСРЕ33 |

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| H0556: 6, L0770: 6, | H0659: 6, H0521: 6, | .0740: 5, H0661: 4, | H0638: 4, H0497: 4, | H0560: 4, H0170: 3, | H0341: 3, S0360: 3, | H0318: 3, H0561: 3, | .0731: 3, L0757: 3, | H0265: 2, S0418: 2, | S0420: 2, S0356: 2, | S0132: 2, S0278: 2, | 70115: 2, T0110: 2, | H0083: 2, S0214: 2, | H0622: 2, H0617: 2, | S0364: 2, H0090: 2, | 70042: 2, H0366: 2, | H0646: 2, S0002: 2, | H0529: 2, L0369: 2, | .0769: 2, L0646: 2, | .0776: 2, L0655: 2, | .0809: 2, L0789: 2, | | .0777: 2, L0758: 2, | .0593: 2, H0668: 2, | H0543: 2, H0423: 2, | r0002: 1, S0342: 1, | H0716: 1, H0657: 1, | S0212: 1, H0402: 1, | ,0005: 1, S0376: 1, | Н0580: 1, Н0339: 1, |
| OH · | ЮH | <u> </u> | HOH | <u>HO</u> | HO | HO: | <u> </u> | (H) | S04 | S01 | TOT |)OH | ЮH | S03 | 10T |)OH | HO | [| <u> </u> | 100 100 | <u>100</u> | <u> </u> | 507 | OH | TOC | HO | 802 | <u> </u> | HO. |
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| L0717: 1, H0370: 1 | S0005: 1, H0257: 1 | H0485: 1, T0109: 1, | 0635: 1, H0309: 1 | 0046: 1, L0471: 1 | 014: 1, H0266: 1 | S0003: 1, S0022: 1, |)615: 1, H0031: 1 | S0366: 1, H0038: 1, |)616: 1, H0413: 1 | 041: 1, H0625: 1 | 065: 1, S0440: 1, | 150: 1, H0641: 1 | 344: 1, S0422: 1, | 0026: 1, H0517: 1 | 763: 1, L0761: 1, | 630: 1, L0800: 1, | 641: 1, L0642: 1, | 771: 1, L0768: 1, | L0803: 1, L0650: 1, | 775: 1, L0805: 1, | 653: 1, L0657: 1, | 663: 1, H0693: 1 | 519: 1, S0126: 1 | H0658: 1, S0330: 1 | S0152: 1, H0522: 1 | 1, S0406: 1 | H0436: 1, H0626: 1 | S3014: 1, S0027: 1, | S0206: 1, L0596: 1, |
| 07 | OS S | HC | HC |)H | HC | <u>so</u> | DH | <u>S</u> |)H | TO | 2 | <u>s</u> | SO | OH | <u> </u> | 2 | <u>3</u> | <u> </u> | OH OH | OH | 80 | OH | HC | S3 | SO |
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| S0194: 1, H0542: 1, H0422: 1 and H0506: 1. | H0659: 2, L0752: 2, L0595: 2 and H0686: 1. | | | | | L0766: 10, L0754: 9, | S0358: 6, H0616: 6, | H0551: 5, L0439: 5, | H0657: 4, H0497: 4, | S0003: 4, H0038: 4, | S0422: 4, S0374: 4, | H0659: 4, S0045: 3, | H0644: 3, H0412: 3, | H0529: 3, L0662: 3, | .0805: 3, L0657: 3, | .0663: 3, H0521: 3, | H0624: 2, H0171: 2, | S0040: 2, H0638: 2, | S0418: 2, L0005: 2, | S0376: 2, H0546: 2, | H0046: 2, H0553: 2, | H0169: 2, H0591: 2, | H0413: 2, H0623: 2, | .0646: 2, L0771: 2, | .0803: 2, L0526: 2, | .0666: 2, L0664: 2, |
|---|---|--|----------|-----------|-------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|)H | E C | Pro-10 to Val-15, Ser-25 to Asn-32. | | | Pro-29 to Gln-38. | Gln-47 to Lys-55. L | 08 | HC |)H | <u>S</u> | <u>S</u> 0 |)H |)H |)H | <u>a</u> | 07 |)H | 0S | 08 | SO SO | OH. |)H |)H | <u>01</u> | 07 | 10 |
| | 3961 | 3962 | 3963 | 3964 | 3965 | 3966 | | | | | | | | | | | | | | | | | | | | |
| | 93 - 209 | 203 - 412 | 3 - 101 | 191 - 322 | 3 - 116 | 201 - 407 | | | | | | | | | | | | | | | | | | | | |
| | 1786 | 1871 | 1788 | 1789 | 1790 | 1791 | | | | | | | | | | | | | | | | | | | | |
| | HPCPH50R | HPCPH51R | HPCPH52R | HPCPH68R | | HPCPW09R | | | | | | | | | | | | | | | | | | | | |
| | HPCPH50 | HPCPH51 | HPCPH52 | HPCPH68 | HPCPU27 | HPCPW09 | | | - | | | | | | | | | | | | | | | | | |

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| S0330: 2, S0380: 2, | .0748: 2, L0777: 2, | .0758: 2, S0242: 2, | H0170: 1, H0656: 1, | S0116: 1, H0341: 1, | 212: 1, H0671: 1, | 80356: 1, 80442: 1, | 360: 1, S0132: 1, | 619: 1, L0717: 1, | S0278: 1, H0574: 1, | H0632: 1, H0486: 1, | T0114: 1, H0013: 1, | 105: 1, S0474: 1, | 110: 1, H0545: 1, | .0471: 1, H0373: 1, | H0290: 1, H0688: 1, | 622: 1, L0483: 1, | H0628: 1, L0055: 1, | H0673: 1, H0674: 1, | H0068: 1, H0090: 1, | H0056: 1, T0041: 1, | H0560: 1, H0561: 1, | S0440: 1, H0509: 1, | S0150: 1, H0646: 1, | S0144: 1, L0598: 1, | H0517: 1, L0369: 1, | .0372: 1, L0773: 1, | .0804: 1, L.0774: 1, | .0653: 1, L0655: 1, | 0527: 1, L0659: 1, |
| OS | | .07 | HO | S01 | 20S | S03 | S03 | OH H | 803 | OH | | <u> </u> | | <u> </u> | (H) | OH | ОH | OH |)0H |)0H | (H) | SO ₄ | S01 | 501 | HO | 1703 | <u> </u> | <u>Š</u> | 100 |
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| L0518: 1, L0783: 1, L0809: 1, L0647: 1, H0144: 1, H0520: 1, H0648: 1, S0328: 1, S0152: 1, H0555: 1, S3014: 1, L0747: 1, L0749: 1, S0031: 1, L0684: 1, S0436: 1, L0608: 1, L0595: 1, S0011: 1, S0026: 1, H0136: 1, H0543: 1, | H0659; 2, L0438: 1 and L0439: 1. | | H0521: 13, L0659: 10, | .0779: 10, H0551: 9, | S0360: 6, S0214: 6, | : 6, L0649: 6, | L0666: 6, L0731: 6, | i: 5, H0638: 5, | : 5, H0580: 5, | H0575: 5, H0553: 5, | : 5, L0662: 5, | : 5, L0657: 5, | : 5, L0439: 5, | i: 4, S0358: 4, | H0676: 4, H0574: 4, | H0486: 4, H0318: 4, | S0003: 4, L0655: 4, |
| L0518 L0809 H0648 H0648 S0152 S3014 L0749 L0688 S0011 H0136 | His-25 to Lys-30. H065 and LC | Thr-19 to Leu-24. | H052 | L0779 | 20360 | L0770 |) 10666 | H0170 | 80376 | H0575 | 80210 | T01/9 | H0547 |)490H | 9 / 90H | H0486 | 80003 |
| | 3967 Н | 3968 TI | 3969 | | | | | | | | | | | - | - | | |
| | 209 - 298 | 74 - 256 | 270 - 479 | | | | | | | | | • | | | | | |
| | 1792 | 1793 | 1794 | | | | | | | | | | | | | | |
| | HPCPX80R | HPCQO79R | HPCQ091R | | | | | | | | | | | | | | |
| | HPCPX80 | HPCQ079 | HPCQ091 | | | | | | | | | | | | | | |

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| L0663: 4, L0665: 4, | H0659: 4, L0756: 4, | .0757: 4, H0445: 4, | H0542: 4, S0212: 3, | H0009: 3, L0157: 3, | .0471: 3, H0024: 3, | H0494: 3, L0763: 3, | .0637: 3, L.0646: 3, | 1764: 3, S0052: 3, | H0672: 3, L0748: 3, | .0750: 3, L0752: 3, | .0755: 3, L0608: 3, | 30026: 3, H0543: 3, | H0171: 2, H0556: 2, | H0657: 2, L0785: 2, | S0420: 2, L0005: 2, | H0156: 2, S0474: 2, | H0581: 2, H0251: 2, | H0545: 2, H0373: 2, | H0477: 2, H0412: 2, | H0413: 2, T0041: 2, | S0466: 2, H0641: 2, | S0144: 2, L0372: 2, | .0774: 2, L0805: 2, | .0783: 2, L0664: 2, | S0374: 2, L0438: 2, | H0658: 2, H0670: 2, | H0660: 2, H0539: 2, | H0522: 2, H0436: 2, | .0742: 2, L0777: 2, |
| DTI | <u>当</u> | 07 |)H |)H | | H | | 07 | HC | Lo | | os |)H |)H | 08 | <u>)H</u> | HC | <u>)H</u> | H | H | 08 | 08 | | Lo | 08 | H | HC |)H | 021 |
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| 759: 2, | 1599: 2, | 192: 2, | 0040: 1, | 0583: 1, | 0116: 1, | 0662: 1, |)278: 1, |)222: 1, | 0592: 1, | 0485: 1, | 0069: 1, | 0098: 1, | 0004: 1, | 0105: 1, | 0052: 1, | 0544: 1, | 0046: 1, | 0015: 1, |)510: 1, | 0188: 1, | 0328: 1, | 0006: 1, | 0055: 1, | 0169: 1, | 0598: 1, | 0040: 1, |)564: 1, | 0625: 1, | 0647: 1, |
| L0758: 2, L0759: 2, | L0596: 2, L0599: 2, | L0362: 2, S0192: 2, | H0265: 1, S0040: | H0295: 1, H0583: 1, | H0650: 1, S0116: | H0663: 1, H0662: | H0619: 1, S0278: | H0261: 1, S0222: | H0431: 1, H | H0586: 1, H0485: 1 | H0013: 1, H | H0427: 1, H0098: 1 | H0042: 1, H | H0274: 1, L0 | H0505: 1, H | H0327: 1, H | H0546: 1, H | H0150: 1, H0015: 1 | T0010: 1, H0510: | H0375: 1, H | H0252: 1, H | H0039: 1, T0006: 1 | H0031: 1, L0055: | H0032: 1, H | H0124: 1, H0598: | H0090: 1, H0040: 1 | H0059: 1, L0564: | H0560: 1, H0625: | H0561: 1, H0647: 1, |
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| H0646: 1, S0142: 1, S0344: 1, S0002: 1, S0344: 1, S0002: 1, S0426: 1, H0695: 1, L0765: 1, L0772: 1, L0765: 1, L0771: 1, L0648: 1, L0560: 1, L0806: 1, L0775: 1, L0806: 1, L0658: 1, H0448: 1, H06435: 1, H0646: 1, S0330: 1, S0330: 1, S0330: 1, H0444: 1, S0024: 1, S0037: 1, S0024: 1, L0594: 1, L0588: 1, L0594: 1, L0601: 1, S0011: 1, H06422: 1 and H0008: 1. | | | | | L0758: 6, L0779: 5, L0766: 4, L0731: 4, |
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| ÷ | | | | Pro-3 to Cys-9, Asn-28 to Phe-37. | |
| | 3970 | 3971 | 3972 | 3973 | 3974 |
| | 113 - 271 | 119 - 265 | 1 - 345 | 2 - 229 | 259 - 408 |
| | | 1796 | | 1798 | 1799 |
| · | HPCQQ66R | HPCQT27R | HPCQT88R | HPCQW64 HPCQW64R | HPCQW77 HPCQW77R |
| | | | HPCQT88 | HPCQW64 | HPCQW77 |

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| S0360: 2, L0769: 2, | L0649: 2, H0648: 2, | L0744: 2, L0740: 2, | L0747: 2, L0777: 2, | L0755: 2, L0757: 2, | L0599: 2, H0171: 1, | T0049: 1, H0657: 1, | H0255: 1, H0638: 1, | S0408: 1, H0619: 1, | H0037: 1, H0052: 1, | L0471: 1, H0014: 1, | H0316: 1, S0438: 1, | L0520: 1, L0763: 1, | L0770: 1, L0637: 1, | L0761: 1, L0373: 1, | L0764: 1, L0774: 1, | L0775: 1, L0375: 1, | L0776: 1, L0655: 1, | L0527: 1, L0542: 1, | L0382: 1, L0519: 1, | H0144: 1, H0682: 1, | H0659: 1, H0660: 1, | H0696: 1, H0555: 1, | S3012: 1, L0439: 1, | L0751: 1, L0754: 1, | L0745: 1, L0749: 1, | L0752: 1, L0759: 1, | H0542: 1, S0458: 1 and | S0384: 1. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Lys-1 to Val-6. |
| | | | | | | | | | | | | | | | | ··. | | | | | | | | | | | | | 3975 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 174 - 326 |
| | | ••• | | | | | | | | | | | | | | , | | ···. | | | | | | | | | | | 1800 |
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| | | | . , | | | | | | | , | | | L0655: 22, H0648: 8, | H0638: 4, H0318: 4, | L0776: 4, L0659: 4, | L0751: 4, L0747: 4, | L0599: 4, S0358: 3, | L0761: 3, L0775: 3, | L0760: 2, H0255: 2, | H0663: 2, S0360: 2, | H0486: 2, L0142: 2, | H0087: 2, L0662: 2, | L0378: 2, L0653: 2, | L0783: 2, L0666: 2, | L0664: 2, L0665: 2, | L0743: 2, L0756: 2, | L0777: 2, L0362: 2, | L0600: 2, H0650: 1, |
| | Ser-8 to Lys-21, Gln-47 to Glu-52, | Arg-72 to Arg-87. | Met-4 to Lys-18, | Gln-44 to Glu-49, | Arg-69 to Arg-84. | Asn-1 to Lys-20, | Gln-46 to Glu-51, | Arg-71 to Arg-86. | Asn-1 to Lys-21, | Gln-47 to Glu-52, | Arg-72 to Arg-87. | | | | | | | | | | | | | | | | | |
| 3976 | 3977 | | 3978 | | | 3979 | | | 3980 | | | 3981 | 3982 | | | | | | • | | | | | | | | | |
| 2 - 109 | 228 - 560 | | 350 - 760 | | | 269 - 598 | | | 354 - 713 | | | 2 - 595 | 1 - 177 | | | | | | | | | | | | _ | | | |
| 1801 | 1802 | | 1803 | | | 1804 | | | 1805 | | | 1806 | 1807 | | | | | | | | | | _ | | | | | |
| HPCRN90R | HPCTD21R | | HPCTD23R | | | HPCTD25R | | | HPCTD61R | | | HPCTF29R | HPCTF83R | | | | | | | | | | | | | | - | |
| HPCRN90 | HPCTD21 | | HPCTD23 | | | HPCTD25 | | | HPCTD61 | | | HPCTF29 | HPCTF83 | | | | | | | | | | | | | | | |

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| H0657: 1, H0692: 1, | H0381: 1, H0306: 1, | H0402: 1, H0305: 1, | S0376: 1, S0300: 1, | H0441: 1, L0622: 1, | L0623: 1, L0586: 1, | H0635: 1, L0022: 1, | H0042: 1, H0575: 1, | H0581: 1, H0052: 1, | H0597: 1, H0231: 1, | H0109: 1, H0029: 1, | H0039: 1, T0006: 1, | H0031: 1, H0166: 1, | H0673: 1, H0674: 1, | H0163: 1, H0063: 1, | H0413: 1, H0359: 1, | H0396: 1, H0647: 1, | H0646: 1, S0002: 1, | H0529: 1, L0762: 1, | L0769: 1, L0667: 1, | L0772: 1, L0372: 1, | L0771: 1, L0767: 1, | L0768: 1, L0387: 1, | L0766: 1, L0774: 1, | L0784: 1, L0606: 1, | L0607: 1, L0629: 1, | L0657: 1, L0518: 1, | L0782: 1, L0809: 1, | L0787: 1, L0789: 1, | L0790: 1, L0663: 1, |
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| H0690: 1, H0659: 1, H0672: 1, H0651: 1, S0328: 1, S0378: 1, H0521: 1, H0522: 1, S0044: 1, H0214: 1, H0187: 1, L0748: 1, L0740: 1, L0755: 1, H0445: 1, H0595: 1, S0106: 1, S0462: 1 and H0677: 1. | | | | | H0052: 3, H0624: 2, | H0014: 2, H0375: 2, | L0598: 2, L0662: 2, | L0803: 2, L0792: 2, | L0666: 2, L0664: 2, | H0659: 2, L0742: 2, | L0743: 2, L0754: 2, | H0423: 2, H0171: 1, | H0686: 1, S0360: 1, | H0486: 1, H0194: 1, | L0041: 1, L0471: 1, | H0687: 1, H0040: 1, | H0264: 1, S0440: 1, | S0422: 1, L0761: 1, | L0646: 1, L0804: 1, |
|---|----------|--|------------------|----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | Lys-37 to Arg-42, Ser-74 to Thr-81. | Arg-6 to Asp-15. | | | | | | | | | | ٥ | | | | | | |
| | 3983 | 3984 | 3985 | 3986 | 3987 | | | | | | | | | | | | | | |
| | 1 - 114 | 1 - 306 | 341 - 451 | 23 - 538 | 191 - 343 | | | | | | | | | | | | | | |
| | 1808 | 1809 | 1810 | 181 | | | | | | | • | | | | | | | | |
| | HPCTI39R | HPCT186R | HPCTN62R | | HPCTP60R | | | | | | | | | | | | | | |
| | HPCTI39 | HPCT186 | HPCTN62 | HPCT069 | HPCTP60 | | | | | | | | | | | | | | |

| L0352: 1, H0670: 1, L0744: 1, L0740: 1, L0780: 1, L0759: 1 and H0506: 1. | L0803: 2, H0413: 1, L0650: 1, L0666: 1, H0689: 1, H0659: 1, H0658: 1, L0758: 1, L0759: 1 and S0242: 1. | | | | | L0439: 11, L0740: 10, | L0752: 10, L0659: 8, | L0748: 7, L0005: 6, | S0358: 6, L0471: 6, | S0214: 6, L0803: 6, | L0517: 6, L0666: 6, | L0759: 6, L0664: 5, | L0665: 5, S0126: 5, | H0574: 4, H0156: 4, | L0646: 4, L0771: 4, | L0766: 4, S0374: 4, | H0659: 4, L0754: 4, | L0749: 4, L0731: 4, | L0362: 4, H0170: 3, | H0341: 3, H0632: 3, | S0003: 3, H0413: 3, | H0529: 3, L0369: 3, |
|---|--|-----------------|----------|------------------|----------|-----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | Gly-4 to Lys-9. | | Pro-7 to Ala-13. | | Asn-27 to Lys-36. | | | | , | | | | | | | | | | | | |
| | 3988 | 3989 | 3990 | 3991 | 3992 | 3993 | | | | | | | | | | | | | | | | |
| | 307 - 495 | 3 - 128 | 3 - 377 | 2 - 274 | 2 - 205 | 1 - 153 | | | | | | | | | <u>.</u> | | | | | | | |
| | 1813 | 1814 | 1815 | 1816 | 1817 | 1818 | | | | | | | | | | | | | | | | |
| | HPCTR60R | HPCTT47R | HPCTV40R | | HPCTV92R | | | | | | , | | | | | | | | | | | |
| | HPCTR60 | HPCTT47 | HPCTV40 | HPCTV53 | HPCTV92 | HPCTX22 | | | | | | | | | | | | | | | | |

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| L0770: 3, L0637: 3, | .0775: 3, L0663: 3, | 378: 3, H0478: 3, | S0026: 3, S0212: 2, | 360: 2, H0580: 2, |)45: 2, H0431: 2, | H0331: 2, H0427: 2, | H0599: 2, H0039: 2, | H0553: 2, H0551: 2, | 002: 2, L0772: 2, | L0653: 2, L0654: 2, | 776: 2, L0655: 2, | 561: 2, H0547: 2, | H0519: 2, S0028: 2, | 755: 2, H0543: 2, | 524: 1, H0171: 1, | 002: 1, H0657: 1, | H0656: 1, L0415: 1, | S0116: 1, S0418: 1, | 120: 1, S0354: 1, | 130: 1, H0208: 1, | 542: 1, H0013: 1, | .0021: 1, T0082: 1, | S0010: 1, H0318: 1, | H0052: 1, H0544: 1, | 123: 1, H0620: 1, | H0024: 1, H0014: 1, | H0275: 1, H0355: 1, | H0510: 1, H0266: 1, | H0290: 1, H0615: 1, |
| .0 <u>1</u> | 201 | 203 |)0S | <u>203</u> |) <u>0</u> S | HO | HO | HO | <u> </u> | <u>10</u> | <u>roz</u> | | HOH | <u>5</u> | HO | TOC | HO | S01 | S04 | 707 T0 | HOOH | <u> </u> | <u> </u> | OH | HO | OH | HO | HO | HO |
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| .0483: 1, H0048: 1 | H0644: 1, H0032: 1 H0068: 1 H0040: 1 | H0380: 1, T0069: 1, |)560: 1, H0625: 1 | 361: 1, S0440: 1 | H0509: 1, H0641: 1 | 646: 1, S0144: 1 | 422: 1, S0426: 1, | 373: 1, L0388: 1 | 651: 1, L0378: 1 | 809: 1, L0647: 1 | L0438: 1, H0689: 1, | HO683: 1, H0684: 1 | H0648: 1, S0330: 1 | H0539: 1, H0521: 1 | 013: 1, L0779: 1, | L0758: 1, H0667: 1 | H0136: 1, S0194: 1 | H0542: 1, H0422: 1 and | S0424: 1. | L0666: 19, L0752: 14, | S0358: 12, L0770: 10, | .0439: 10, L0754: 10 | 659: 8, H0574: 7 | 663: 7, L0664: 7 | H0659: 7, L0758: 7, | 759: 7, S0408: 6, | 519: 6, L0740: 6 | .0750: 6, L0731: 6, |
| 07 | HO | OH | OH . |)H | HO | OH OH | 80 | 2 | <u> </u> | <u>3</u> | 3 | OH OH | OH! | OH. | <u>S</u> | <u> </u> | OH. | OH H | 08 | 7 | 20 | 2 | <u>2</u> | <u>3</u> | OH OH | <u>3</u> | <u> </u> | 2 |
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| L0717: 5, L0771: 5, | L0775: 5, L0776: 5, | L0783: 5, H0648: 5, | L0756: 5, L0362: 5, | S0442: 4, H0413: 4, | S0422: 4, L0638: 4, | L0646: 4, H0547: 4, | L0748: 4, L0592: 4, | H0170: 3, H0580: 3, | H0266: 3, H0591: 3, | H0529: 3, L0637: 3, | L0803: 3, L0774: 3, | L0665: 3, H0660: 3, | L0747: 3, H0542: 3, | H0543: 3, H0657: 2, | S0420: 2, S0354: 2, | S0444: 2, S0360: 2, | H0013: 2, H0544: 2, | H0015: 2, H0051: 2, | H0687: 2, H0328: 2, | H0674: 2, S0036: 2, | H0412: 2, S0438: 2, | S0440: 2, L0640: 2, | L0769: 2, L0773: 2, | L0662: 2, L0766: 2, | L0650: 2, L0806: 2, | L0805: 2, H0144: 2, | S0374: 2, H0691: 2, | S0328: 2, S0330: 2, | H0696: 2, L0751: 2, |
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| S0436: 2, L0591: 2, | .0581: 2, H0423: 2 | H0624: 1, H0685: 1, | 656: | H0341: 1, S0212: 1, | S0282: 1, H0662: 1 | H0208: 1, H0208: 1, | S0045: 1, S0300: 1 | H0455: 1, L0105: 1 | 024: | H0239: 1, S6028: 1, | 303: 1 | H0615: 1, H0428: 1, | F0006: 1, H0135: 1 | H0616: 1, H0551: 1 | 564: 1 | T0041: 1, H0625: 1 | H0509: 1, S0472: 1, | 369: | .0762: 1, L.0763: 1 | 796: | L0639: 1, L0667: 1 | 372:] | 648:] | L0794: 1, | L0651: 1, | .0653: 1, L.0606: 1 | .0607: 1, L0807: 1 | .0527: 1, L0657: 1 | .0512: 1, L0526: 1 |
| 2, 1.0 | 2, H0 | 1, HC | 1, H(| 1, S0 | 1, H0 | 1, HC | 1, SO | 1, 150 | 1, HC | 1, \$6 | 1, S00 | 1, H0 | 1, H0 | 1, HC | 1, 10 | 1, H0 | 1, S0 | 1,10 | 1, LØ | 1, 10 | 1,10 | 1,10 | 1,10 | 1, 10 | 1, LO | 1, 15 | 1, LO | 1, 10 | 1,10 |
| 436: | 581: |)624: | 583: | 341: | 282: |)638: | 045: | 3455: | 123: |)239: | 250: | 615: | 900 |)616: | S0386: 1, L0564: | 041: | 509: |)646: | 762: | 4747: 1, L0796: | 639: | 772: | .0642: 1,] | .0767: 1,] | ,0804: 1,] | 653: | 607: | 527: | 512: |
| S | <u> </u> | Ĭ | Ĭ | Ĭ | S | Ĭ | 8 | 王 | Ħ | Ħ | <u>8</u> | Ĭ | 2 | Ħ | <u>8</u> | E | Ħ | Ħ | <u> </u> | 7 | <u>김</u> | <u> </u> | <u> </u> | 크 | <u> </u> | <u> </u> | <u> </u> | <u> </u> | 긔 |
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| L0547: 1, L0518: 1, L0782: 1, L0809: 1, L0367: 1, L0565: 1, L0438: 1, H0520: 1, S0126: 1, H0435: 1, H0670: 1, H0666: 1, H0539: 1, S0406: 1, H0478: 1, S0028: 1, L0744: 1, L0786: 1, L0757: 1, S0260: 1, H0445: 1, L0588: 1, L0608: 1, S0412: 1, | | | | L0747: 12, L0750: 12, | H0052: 9, H0547: 8, | | L0752: 8, S0360: 7, | S0408: 7, S0222: 6, | S0010: 6, H0494: 6, | H0144: 6, H0657: 5, | S0358: 5, H0393: 5, | H0373: 5, H0551: 5, | L0775: 5, L0666: 5, | L0758: 5, H0542: 5, | H0486: 4, H0013: 4, | H0545: 4, H0046: 4, | L0471: 4, H0687: 4, |
| · | Asp-1 to Leu-6. | | Gln-20 to Leu-25. | Asp-11 to Val-19, | Cys-36 to Asp-58, | Lys-102 to Lys-111, | Ile-115 to Ala-125, | Val-127 to Gln-132. | | | | | | | | | |
| | 3995 | 3996 | 3997 | 3998 | | | | | | | | | _ | | | | |
| · : | 57 - 209 | 1 - 99 | 3 - 287 | 2 - 412 | | | | | | | · | | | | | | |
| | 1820 | 1821 | 1822 | 1823 | | | | | | | | | | | | | |
| | HPDOA92R | HPDOF32R | HPDOF81R | HPDOP05R | | | | | | | | | | | | | |
| | HPDOA92 | HPDOF32 | HPDOF81 | HPDOP05 | | | | | | | | | | | | | |

| H0644: 4, L0769: 4, | .0521: 4, L065/: 4, | .0659: 4, L0663: 4, | S0374: 4, L0757: 4, | H0423: 4, H0713: 3, | H0716: 3, H0638: 3, | S0376: 3, H0592: 3, | S0474: 3, H0327: 3, | H0553: 3, S0036: 3, | H0412: 3, S0440: 3, | .0651: 3, L0545: 3, | , H0520: 3, | i, S0380: 3, | S0027: 3, H0445: 3, | H0665: 3, S0194: 3, | , H0717: 2, | F0049: 2, S0356: 2, | , S0444: 2, | S0410: 2, S0045: 2, | S0476: 2, H0587: 2, | H0427: 2, H0575: 2, | H0706: 2, \$0346: 2, | HO581: 2, H0194: 2, | H0530: 2, H0620: 2, | F0010: 2, H0356: 2, | H0615: 2, H0039: 2, | H0617: 2, H0032: 2, | H0673: 2, H0068: 2, | H0038: 2, S0438: 2, | S0150: 2, H0647: 2, |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------|--------------|---------------------|---------------------|-------------|---------------------|-------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| H0644: 4 | L0321: 4 | L0659: 4 | S0374: 4 | H0423: 4 | H0716: 3 | S0376: 3 | S0474: 3 | H0553: 3 | H0412: 3 | L0651: 3 | L0438: 3 | H0435: 3 | S0027: 3, | H0665: 3 | H0543: 3 | T0049: 2 | S0442: 2, | S0410: 2, | S0476: 2, | H0427: 2 | H0706: 2 | H0581: 2 | H0530: 2 | T0010: 2 | H0615: 2 | H0617: 2 | H0673: 2 | H0038: 2 | S0150: 2, |
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| .0598: 2, L0638: 2, | L0646: 2, L0764: 2, | 2, L0768: 2, | 2, L0766: 2, | 2, L0806: 2, | 2, L0809: 2, | L0664: 2, L0665: 2, | 2, H0725: 2, | H0519: 2, S0126: 2, | 2, H0682: 2, | H0684: 2, S0328: 2, | H0522: 2, H0696: 2, | S0390: 2, S0028: 2, | 2, L0755: 2, | 2, L0759: 2, | 2, S0436: 2, | L0592: 2, L0599: 2, | S0011: 2, H0136: 2, | H0506: 2, H0624: 1, | 1, H0686: 1, | l, S0430: 1, | H0583: 1, H0650: 1, | H0656: 1, S0282: 1, | 1, H0661: 1, | 1, H0662: 1, | H0241: 1, H0300: 1, | H0125: 1, S0420: 1, | H0637: 1, H0580: 1, | S0007: 1, S0046: 1, | S0132: 1, S0278: 1, |
| L0598: 2 | L0646: 2 | L0773: 2 | L0794: 2 | L0774: 2 | L0655: 2, 1 | L0664: 2 | S0428: 2 | H0519: 2 | H0690: 3 | H0684: 2 | H0522: 2 | S0390: 2 | L0748: 2 | L0731: 2 | H0444: 2 | L0592: 2 | S0011: 2 | H0506: 2 | H0170: | S0134: 1 | H0583: | H0656: | H0255: 1 | H0663: 1 | H0241: | H0125: | H0637: | S0007: 1 | S0132: 1 |
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| H0431: 1, H0415: 1, | H0442: 1, H0438: 1, | H0586: 1, H0574: 1, |)622: 1, T0040: 1, | 2250: 1, H0156: 1, | 0021: 1, H0002: 1, | 082: 1, T0048: 1, | 3318: 1, H0310: 1, | H0251: 1, H0263: 1, | 0597: 1, L0738: 1, | H0546: 1, H0569: 1, | 0050: 1, H0024: 1, | 0578: 1, H0014: 1, | 2015: 1, L0163: 1, | 0051: 1, S0388: 1, | HO083: 1, H0399: 1, | 028: 1, H0398: 1, | S0003: 1, S0214: 1, | 3428: 1, L0483: 1, | 0181: 1, H0606: 1, | 0166: 1, H0169: 1, | H0708: 1, H0163: 1, | 70067: 1, H0264: 1, | HO413: 1, HO413: 1, | .0564: 1, H0022: 1, | 0041: 1, H0512: 1, | .0475: 1, H0561: 1, | S0294: 1, L0065: 1, | H0641: 1, H0633: 1, | S0472: 1, S0422: 1, |
| H | H | HC | <u>a</u> | HO | 07 | <u>T0</u> |)H |)H |)H | OH HO | OH | HO | OH HO |)H | HO | 98 | S |)HO |)HO |)H | OH | 오 |)H | <u>3</u> | <u>T0</u> | <u>3</u> | <u>S</u> |)H | OS SO |
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| H0529: 1, L0536: 1, L0770: 1, L0761: 1, L0772: 1, L0373: 1, L0662: 1, L0803: 1, L0666: 1, L0629: 1, L0636: 1, L0517: 1, L0526: 1, L0517: 1, L0384: 1, L0544: 1, L0384: 1, L0544: 1, L0367: 1, H0697: 1, R0711: 1, H0689: 1, H0711: 1, H0689: 1, H0711: 1, H0672: 1, H0658: 1, H0710: 1, H0539: 1, H0710: 1, H0518: 1, H0521: 1, L0754: 1, L0740: 1, L0777: 1, L0756: 1, L0777: 1, L0758: 1, L0777: 1, L0758: 1, L0591: 1, L0594: 1, H0668: 1, S0026: 1, | • | | H0694: 48, L0777: 14, H0521: 11, L0794: 10, L0748: 10, L0747: 10, S0214: 9, S0360: 8, |
| | | | |
| · | 3999 | 4000 | 4001 |
| | 3 - 512 | 3 - 272 | 3 - 287 |
| | 1824 | 1825 | 182 |
| | HPDOP20R | HPDOS87R | HPDOU54R |
| | | HPDOS87 | HPDOU54 |

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| S0003: 8, H0644: 8, | .0439: 8; H0553: 7, | .0662: 7, L0659: 7, | .0588: 7, H0543: 7, | H0038: 6, L0646: 6, | H0436: 6, L0740: 6, | H0341: 5, S0358: 5, | H0580: 5, H0545: 5, | H0494: 5, L0666: 5, | .0665: 5, L0779: 5, | .0599: 5, H0542: 5, | H0656: 4, H0486: 4, | H0046: 4, H0014: 4, | H0551: 4, S0440: 4, | H0529: 4, L0764: 4, | .0809: 4, S0126: 4, | S0406: 4, L0757: 4, | 30436: 4, L0591: 4, | .0485: 4, L0362: 4, | H0423: 4, H0624: 3, | 30376: 3, S0444: 3, | 30408: 3, S0410: 3, | H0581: 3, H0031: 3, | H0090: 3, S0142: 3, | .0770: 3, L0637: 3, | .0772: 3, L0521: 3, | L0766: 3, L0774: 3, | .0663: 3, L0664: 3, | F0068: 3, H0547: 3, | H0539: 3, L0758: 3, |
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| H0445: 3, S0194: 3, H0171: 2, H0556: 2, S0134: 2, H0650: 2, H0657: 2, S0418: 2, | H0013: 2, H0411; 2, H0013: 2, S0010: 2, H0544: 2, H0510: 2, S6028: 2, S0022: 2, L0483: 2, T0006: 2, | H0591: 2, H0616: 2, F0067: 2, H0412: 2, F0042: 2, H0560: 2, H0646: 2, S0422: 2, L0804: 2, L0775: 2. | L0805: 2, L0783: 2, L4775: 2, H0670: 2, H0648: 2, H0710: 2, H0555: 2, H0478: 2, S3012: 2, S0027: 2, | L0754: 2, L0749: 2, L0753: 2, L0759: 2, S0434: 2, L0592: 2, L0604: 2, S0011: 2, S0276: 2, S0040: 1, H0716: 1, S0114: 1, | H0662: 1, H0459: 1, S0442: 1, S0045: 1, S0476: 1, H0393: 1, S0278: 1, H0550: 1, |
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| S0222: 1, H0431: 1, | H0455: 1, H0600: 1, | H0592: 1, H0586: 1, | H0331: 1, H0574: 1, | H0485: 1, T0040: 1, | T0109: 1, H0427: 1, | H0156: 1, H0575: 1, | H0004: 1, H0274: 1, | S0346: 1, H0310: 1, | H0052: 1, L0040: 1, | H0597: 1, H0572: 1, | H0123: 1, H0050: 1, | L0471: 1, H0375: 1, | H0594: 1, H0687: 1, | H0252: 1, H0039: 1, | L0142: 1, H0628: 1, | H0617: 1, H0032: 1, | H0169: 1, H0674: 1, | L0455: 1, H0068: 1, | H0598: 1, H0135: 1, | H0163: 1, H0634: 1, | H0264: 1, H0272: 1, | H0413: 1, T0069: 1, | T0041: 1, H0625: 1, | H0561: 1, S0450: 1, | S0438: 1, H0509: 1, | H0131: 1, H0654: 1, | S0344: 1, S0210: 1, | S0002: 1, S0426: 1, | L0451: 1, L0520: 1, |
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| L0762: 1, L0763: 1, L0761: 1, L0773: 1, L0768: 1, L0386: 1, L0650: 1, L0375: 1, L0651: 1, L0654: 1, L0776: 1, L0527: 1, L0776: 1, L0527: 1, L0776: 1, L0545: 1, L0787: 1, L4501: 1, S0428: 1, S0216: 1, H0435: 1, H0691: 1, H0660: 1, H0669: 1, S0330: 1, S0152: 1, S0330: 1, S0152: 1, L0748: 1, L0750: 1, L0748: 1, L0750: 1, L0756: 1, L0750: 1, L0756: 1, L0751: 1, H0707: 1, L0594: 1, L0755: 1, L0751: 1, H0707: 1, L0594: 1, L0756: 1, S0026: 1, H0665: 1, S0196: 1, | H0506: 1. | | | |
|---|-----------|-----------|---------------------------------------|----------|
| | H | | Pro-6 to Gly-35, Arg-41 to Glu-47. | |
| | 4002 | 4003 | 4004 | 4005 |
| | 1 - 504 | 2-178 | 294 - 485 | 94 - 291 |
| | 1827 | 1828 | 1829 | 1830 |
| · | HPDOZ43R | HPDPC65RA | НРДРС90 НРДРС90КА | HPDPH14R |
| | HPDOZ43 | 7 | | HPDPH14 |

| | L0784: 2, H0428: 1, H0644: 1, S0366: 1, L0659: 1, L0636: 1, L0789: 1 and H0658: 1. | L0766: 2 and H0658: 2. | | L0794: 4, H0351: 3, H0083: 2, H0520: 2, H0658: 2, H0657: 1, H0341: 1, S0358: 1, L0586: 1, L0021: 1, T0110: 1, H0328: 1, H0040: 1, H0616: 1, H0625: 1, S0438: 1, S0440: 1, S0150: 1, L0800: 1, L0768: 1, L0800: 1, L0776: 1, L0803: 1, L0776: 1, L0857: 1, H0660: 1, S0328: 1, S0380: 1, S0406: 1, L0747: 1, H0343: 1, H0136: 1, H0343: 1, H0422: 1 and S0424: 1. | |
|----------|---|---------------------------|--|---|---|
| | | | Gln-15 to Arg-20, Arg-35 to Ser-40. | Ile-5 to Lys-20. | Asp-28 to His-35, Phe-43 to Trp-48, Asn-81 to Arg-86. |
| 4006 | 4007 | 4008 | 4009 | 4010 | 4011 |
| 1 - 420 | 365 - 3 | 260 - 463 | 369 - 581 | 244 - 456 | 80 - 463 |
| 1831 | 1832 | 1833 | 1834 | 1835 | 1836 |
| HPDPK37R | HPDPN83R | нрррр69к | HPDPQ10R | HPDPQ16R | HPDPR73R |
| HPDPK37 | HPDPN83 | нРДРР69 | HPDPQ10 | HPDPQ16 | HPDPR73 |

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|--|----------|---|----------|--------------------------|---|----------|----------|----------|
| L0770: 4, L0771: 4, L0769: 3, L0757: 3, L0766: 2, L0779: 2, L0758: 2, H0170: 1, H0686: 1, S0476: 1, H0586: 1, L0637: 1, L0761: 1, L0803: 1, L0774: 1, L0776: 1, L0659: 1, L0809: 1, L0791: 1, H0658: 1, H0696: 1, S3012: 1, S0390: 1, L0747: 1, L0752: 1, L0753: 1, L0759: 1, S0434: 1, | | L0439: 4, H0658: 2, S0474: 1, L0794: 1, L0804: 1, L0791: 1, L0755: 1 and L0599: 1. | | | | | | • |
| | | Asp-17 to Asn-30. | | | Lys-32 to Glu-39, Glu-43 to Ala-50, Ala-52 to Glu-80. | | | |
| 4012 | 4013 | 4014 | 4015 | 4016 | 4017 | 4018 | 4019 | 4020 |
| 2-214 | 2 - 421 | 378 - 533 | 2 - 262 | 2 - 418 | 148 - 405 | 1 - 693 | 2 - 235 | 2 - 334 |
| 1837 | 1838 | 1839 | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 |
| HPDPS51R | HPDPS90R | HPDPT86R | HPDPU66R | HPDPX12 HPDPX12RP 00B | HPDPY83 HPDPY83RP 00B | HPDQC34R | HPDQG58R | HPDQH11R |
| HPDPS51 | HPDPS90 | HPDPT86 | HPDPU66 | HPDPX12 | HPDPY83 | HPDQC34 | HPDQG58 | HPDQH11 |

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|-------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | H0052: 11 1 0430: 10 | L0775: 8, H0046: 7, | L0748: 7, L0438: 6, | L0750: 6, L0666: 5, | L0599: 5, S0358: 4, | H0620: 4, H0038: 4, | H0413: 4, L0369: 4, | L0769: 4, L0659: 4, | L0665: 4, S0328: 4, | L0758: 4, S0418: 3, | S0442: 3, S0410: 3, | H0619: 3, H0599: 3, | L0662: 3, L0768: 3, | L0774: 3, L0653: 3, | H0660: 3, H0521: 3, | L0731: 3, S0434: 3, | L0601: 3, S0026: 3, | S0424: 3, H0556: 2, | T0002: 2, H0295: 2, | H0583: 2, H0656: 2, | S0376: 2, S0444: 2, | H0580: 2, S0045: 2, | 80046: 2, 80222: 2, | H0592: 2, H0586: 2, | N0009: 2, H0013: 2, | H0575: 2, H0618: 2, | H0318: 2, H0196: 2, | H0012: 2, H0373: 2, |
| Gln-12 to Ser-19, | GIII-40 to GIII-34. | | | | | | | | | | | | | | | | | | | | | | | | | | , | |
| 4021 | 4022 | 770+ | • | | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 - 308 | 3 - 545 | JF L | | | | | | | | | | | | | | | , | | | | | | | | | | | |
| 1846 | 1847 | 101 | - | | | | | | | | | | | | | | | | | | | | | | | | | |
| нРDQH34 НРDQH34R | HPDOISOR | אטכואט ווו | | | | | | | | | | | | | | | | | - "- | | | | | | | | | |
| нРDQН34 | HPDOISO | OCINO III | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| T0010: 2, S6028: 2, | S0214: 2, H0031: 2, | .0456: 2, H0708: 2, | H0551: 2, H0264: 2, | S0440: 2, H0509: 2, | 10529: 2, L0763: 2, | .0638: 2, L0637: 2, | 764: 2, L0381: 2, | 557: 2, L0783: 2, | L0663: 2, S0152: 2, | 478: 2, S0028: 2, | L0741: 2, L0777: 2, | 396: 2, L0588: 2, | 89: 2, L0605: 2, | .0604: 2, H0665: 2, | H0136: 2, H0543: 2, | H0170: 1, H0265: 1, | S0040: 1, H0717: 1, | H0657: 1, L0417: 1, | 785: 1, H0381: 1, | 16: 1, H0341: 1, | 564: 1, H0402: 1, | H0450: 1, S0356: 1, | 60: 1, H0208: 1, | 76: 1, H0411: 1, | H0409: 1, H0613: 1, | H0587: 1, H0497: 1, | H0333: 1, H0643: 1, | H0574: 1, L0623: 1, | F0039: 1, H0427: 1, |
|)OL | S02 | LO | HO; | S04 | HO | | L07 | 100 IT00 | F00 | 70H | <u>[107]</u> | 105 | 105 | 106 106 | H01 | H01 | 00S |)OH | 100 | S01 |)OH | H0⁄- | 803 | <u>S04</u> | 70H | OH) | H03 | HO5 | T00 |
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| 2: 1, | 3: 1, | :1, | : 1, |): 1, | 7:1, |): 1, | 5: 1, | 0: 1, |): 1, |); 1, | 4: 1, | | 3: 1, | .1, | 5: 1, | 1: 1, | i. 1, | ; 1, | .1, | . 1, | ; 1, | i. 1, | ; 1, | : 1, | 1, | .1, | 3: 1, | 3: 1, | 7: 1, |
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| L0021: 1, T0082: | H0036: 1, H0253: | S0010: 1, T0048: 1, | S0182: 1, S0474 | H0263: 1, T0110 | L0040: 1, H032 | L0471: 1, H0010: 1, | H0024: 1, H001 | H0416: 1, H029 | H0292: 1, S0003 | L0483: 1, H0030: 1 | H0553: 1, H067 | S0364: 1, S0366 | H0059: 1, S0038: 1 | L0564: 1, T0042 | H0494: 1, S0016 | H0560: 1, H064 | H0646: 1, S0426: 1, | L0371: 1, L0770 | L0761: 1, L0667 | L0772: 1, L0372 | L0646: 1, L0642 | L0374: 1, L0766 | L0651: 1, L0378 | L0776: 1, L0655 | L0511: 1, L0656 | L0636: 1, L0382 | L0664: 1, H0698 | H0702: 1, H0723: 1, | H0520: 1, H0547: |
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| H0519: 1, H0711: 1, | H0659: 1, H0658: 1, | H0666: 1, H0648: 1, | H0672: 1, S0378: 1, | L0602: 1, H0518: 1, | H0522: 1, S0406: 1, | H0555: 1, H0187: 1, | S0027: 1, S0032: 1, | L0742: 1, L0754: 1, | L0747: 1, L0780: 1, | L0757: 1, L0759: 1, | S0031: 1, S0436: 1, | L0592: 1, L0581: 1, | L0608: 1, L0593: 1, | L0362: 1, L0366: 1, | H0667: 1, H0542: 1, | H0422: 1 and H0352: 1. | L0779: 5, L0803: 4, | H0170: 3, L0663: 3, | L0777: 3, H0687: 2, | H0328: 2, H0038: 2, | L0521: 2, L0809: 2, | L0759: 2, L0589: 2, | H0171: 1, S0046: 1, | S0300: 1, L0717: 1, | H0369: 1, H0550: 1, | S0222: 1, H0586: 1, | H0574: 1, H0042: 1, | S0010: 1, H0544: 1, | H0620: 1, H0014: 1, |
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| H0373: 1, H0510: 1, S0003: 1, H0644: 1, H0316: 1, S0036: 1, H0064: 1, H0063: 1, H0264: 1, H0509: 1, L0762: 1, L0662: 1, L0794: 1, L0649: 1, L0794: 1, L0789: 1, H0144: 1, H0547: 1, H0659: 1, H0658: 1, S0328: 1, H0658: 1, S0328: 1, H0658: 1, L0747: 1, L0780: 1, L0731: 1, L0599: 1 and L0595: 1. | L0774: 3, L0809: 2, H0483: 1, H0306: 1, H0599: 1, H0618: 1, H0083: 1, H0644: 1, H0617: 1, H0606: 1, H0087: 1, L0369: 1, L0763: 1, L0794: 1, L0804: 1, L0790: 1, L0805: 1, H0658: 1, | L0780: 1, L0748: 1, L0780: 1 and L0757: 1. L0777: 21, L0748: 16, L0439: 12, S0360: 9, |
|--|---|--|
| | Pro-5 to Arg-25, Lys-32 to Ser-39, Pro-63 to Pro-79, Pro-115 to His-121. | |
| | 4025 | 4026 |
| | 256 - 711 | 1 - 639 |
| | 1850 | 1851 |
| | HPDQL55R | HPDQR20 HPDQR20R |
| | HPDQL55 | HPDQR20 |

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| L0659: 9, L0666: 9, | .0803: 8, L0662: 7, | .0747: 7, L0794: 6, | .0663: 5, S0406: 5, | .0770: 4, L0731: 4, | 58: 4, S0026: 4, | S0356: 3, L0717: 3, | H0156: 3, L0769: 3, | 09: 3, L0664: 3, | H0520: 3, H0672: 3, | H0521: 3, H0696: 3, | .0750: 3, S0192: 3, | H0542: 3, H0423: 3, | H0624: 2, H0657: 2, | S0420: 2, S0358: 2, | S0376: 2, S0408: 2, | H0013: 2, S0003: 2, | S0214: 2, H0264: 2, | H0412: 2, H0413: 2, | S0440: 2, L0764: 2, | .0766: 2, L0804: 2, | 74: 2, L0775: 2, | .0806: 2, L0655: 2, | .0665: 2, S0374: 2, | .0438: 2, H0547: 2, | H0519: 2, H0689: 2, | H0660: 2, S0380: 2, | H0522: 2, S0206: 2, | .0749: 2, L0752: 2, | .0759: 2, L0361: 2, |
| 907 | 108(| 101 _r | 106 | 107 | T01; | S03 | H01 | F080 | H05 | H05: | L075 | HOS | 90H | 8042 | 8037 | 00H | S021 | H04 | 80 4 / | L076 | 1072 | 1.080 | 1066 | 104 | HOS | 90H | H05 | 7.0T | L07 |
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| S0242: 2. H0170: 1. | H0171: 1, L0448: 1, | H0685: 1, H0716: 1, | S0114: 1, H0656: 1, | L0785: 1, S0400: 1, | S0442: 1, S0444: 1, | S0300: 1, S0222: 1, | H0431: 1, H0586: 1, | H0632: 1, L0623: 1, | H0069: 1, H0036: 1, | H0581: 1, H0309: 1, | H0263: 1, H0327: 1, | H0545: 1, H0150: 1, | L0471: 1, H0024: 1, | H0014: 1, T0010: 1, | H0083: 1, H0252: 1, | H0615: 1, H0688: 1, | H0622: 1, L0483: 1, | H0068: 1, S0366: 1, | H0598: 1, H0163: 1, | H0090: 1, H0040: 1, | T0067: 1, H0623: 1, | T0069: 1, H0494: 1, | S0372: 1, S0448: 1, | H0714: 1, H0641: 1, | S0142: 1, S0210: 1, | L0369: 1, L0646: 1, | L0641: 1, L0771: 1, | L0387: 1, L0651: 1, | L0378: 1, L0653: 1, |
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| L0542: 1, L0647: 1, L0787: 1, H0658: 1, H0670: 1, H0648: 1, H0539: 1, H0710: 1, S0332: 1, H0478: 1, H0627: 1, L0755: 1, S0436: 1, L0605: 1, L0362: 1, H0667: 1, S0276: 1, H0543: 1, H0422: 1, H0506: 1 and | | | | | | H0658: 2, L0745: 2, S0422: 1, H0648: 1 and L0731: 1. | L0748: 9, L0774: 3, H0331: 2, H0632: 2, I 0526: 2, H0658: 2 | L0581: 2, H0574: 1 and L0790: 1. | H0542: 11, H0265: 7, H0543: 7, L0751: 5, | S0424: 5, H0556: 4, |
|---|---|-----------|----------|-------------------|--|--|---|----------------------------------|---|---------------------|
| · | Gln-121 to Glu-136, Ala-153 to Ser-162, Ala-176 to Ser-182. | | | Phe-25 to Arg-34, | Cys-51 to His-56, Glu-66 to Ser-75. | | His-2 to Trp-13, Lys-22 to Cys-31. | | Gly-17 to Glu-26, Lys-32 to Leu-37, | Phe-46 to Thr-52, |
| | 4027 | 4028 | 4029 | 4030 | | 4031 | 4032 | | 4033 | |
| | 2 - 550 | 113 - 325 | 25 - 273 | 25 - 258 | | 134 - 322 | 41 - 175 | | 3 - 410 | |
| | 1852 | 1853 | 1854 | 1855 | | 1856 | 1857 | | 1858 | |
| | HPDQR88R | HPDQS14R | HPDQS25R | HPDQS63R | | HPDQS66R | HPDQS76R | | HPDQT32R | |
| | HPDQR88 | HPDOS14 | HPDQS25 | HPDQS63 | | HPDQS66 | НРDQS76 | | нРDQТ32 | |

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| S0420: 4, S0010: 4, | .2: 4, L0659: 4, | 13: 4, L0747: 4, | J0753: 4, H0657: 3, | H0370: 3, H0618: 3, | H0251: 3, H0545: 3, | 10457: 3, H0620: 3, | H0560: 3, H0560: 3, | .0775: 3, L0663: 3, | H0672: 3, S3012: 3, | J0748: 3, S0212: 2, | S0418: 2, S0360: 2, | H0580: 2, S0222: 2, | H0427: 2, H0253: 2, | S0049: 2, H0327: 2, | .0471: 2, H0617: 2, | H0124: 2, S0366: 2, | H0412: 2, L0667: 2, | .0655: 2, H0690: 2, | H0682: 2, H0658: 2, | H0670: 2, H0660: 2, | H0627: 2, S0027: 2, | .0741: 2, L0740: 2, | H0506: 2, H0170: 1, | F0002: 1, H0686: 1, | H0381: 1, H0484: 1, | H0255: 1, H0663: 1, | H0664: 1, H0638: 1, | S0358: 1, H0675: 1, | H0637: 1, S0468: 1, |
| Ile-103 to Gly-109, S042 | /s-128 to Gln-136. S014 | L0743: 4, L0747: 4, | 707 | H03, | H02 | H04. | 90H | 1.07 | 90H | 7/07 | S041 | H05 | H04. | 2008 | 1047 | H01; | H04 | 901 | 90H | ,90H | 90H | 7.07 | H05 | T000 | H03 | H02 | 90H | 503 | H06 |
| IIe | Ly | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| , S0132: 1, | S0005: 1, | H0497: 1, H0156: 1, | L0021: 1, H0318: 1, | , T0103: 1, | , H0178: 1, | H0172: 1, S0051: 1, | , H0355: 1, | H0510: 1, H0594: 1, | H0687: 1, | H0622: 1, L0194: 1, | T0006: 1, | H0424: 1, | H0606: 1, | H0166: 1, H0674: 1, | H0063: 1, | T0067: 1, | L0351: 1, H0494: 1, | S0352: 1, | H0633: 1, | , S0144: 1, | S0426: 1, | , L0369: 1, | L0646: 1, | L0662: 1, | L0766: 1, | L0650: 1, L0376: 1, | L0657: 1, | .0636: 1, L0542: 1, | L0787: 1, |
| H0208: 1, S0132: 1 | S0278: 1, S0005: | H0497: 1, | L0021: 1, | H0052: 1, | H0544: 1, | H0172: 1, | H0083: 1, | H0510: 1, | H0188: 1, | H0622: 1, | L0483: 1, | H0033: 1, | H0031: 1, | H0166: 1, | H0591: 1, | H0087: 1, | L0351: 1, | H0561: 1, | S0440: 1, H0633: | H0647: 1, | S0344: 1, S0426: 1 | H0529: 1, L0369: 1, | L0372: 1, | L0800: 1, | L0768: 1, | 1.0650: 1, | L0776: 1, | L0636: 1, | L0783: 1, L0787: |
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| L0666: 1, L0664: 1, L0665: 1, H0593: 1, H0684: 1, H0435: 1, H0659: 1, S0328: 1, S0330: 1, H0539: 1, S0378: 1, H0521: 1, H0555: 1, H0631: 1, L0744: 1, L0750: 1, L0777: 1, L0752: 1, L0757: 1, L0752: 1, L0757: 1, L0485: 1, L0596: 1, L0485: 1, L0593: 1, L0601: 1, S0011: 1, S0026: 1, | L0731: 4, L0775: 3, L0740: 3, H0170: 2, S0426: 2, L0770: 2, L0646: 2, L0766: 2, L0754: 2, H0344: 1, H0295: 1, H0318: 1, S6028: 1, H0318: 1, S6028: 1, L0642: 1, L0803: 1, L0774: 1, L0776: 1, L0663: 1, H0658: 1, S0424: 1, L0752: 1, L0777: 1, L0752: 1, L0777: 1, L0748: 1, L0777: 1, L0752: 1, S0424: 1 and S0384: 1. |
| | Pro-25 to Thr-32. |
| · | 4034 |
| , | 3 - 269 |
| | 1859 |
| | HPDQU81R |
| | HPDQU81 |

| | | AR104: 42, AR089: | Met-75 to Asp-81, 22, AR060: 7, AR096: | 4, AR055: 2, AR061: | | | | | | • | | | | | | | | | | H0031: 2, H0135: 1, H0272: 1 and H0658: 1. | | | | |
|----------|-----------|-------------------|--|---------------------|---|------------------|--|----------|----------|-----------|-------------------|-------------------|-------------------|-----------|---------------------|---------------------|------------------|----------|-----------------|---|-----------------|----------|----------|------------------|
| • | | Asn-20 to Asp-25, | Met-75 to Asp-81, | Arg-144 to Thr-152. | | Lys-1 to Leu-23, | Ala-27 to Ser-34, Gly-36 to Phe-44. | | | | Leu-11 to Cys-24, | Leu-30 to Ser-36, | Gly-93 to Glu-99. | | Ser-120 to Tyr-126, | Gly-137 to Arg-142, | 201 100 1001 100 | | Glu-1 to Pro-9. | | Ala-2 to Gly-8. | | | Gly-1 to Cys-24, |
| 4035 | 4036 | 4037 | | | | 4038 | | 4039 | 4040 | 4041 | 4042 | • | | 4043 | 4044 | | 4045 | 4046 | 4047 | 4048 | 4049 | 4050 | 4051 | 4052 |
| 2 - 421 | 246 - 401 | 68 - 550 | | , | - | 113 - 391 | | 3 - 476 | 3 - 437 | 164 - 340 | 29 - 430 | | | 212 - 538 | 3 - 506 | | 1 - 525 | 1 - 384 | 230 - 559 | 79 - 270 | 2 - 481 | 1 - 177 | 3 - 302 | 2 - 307 |
| 1860 | 1861 | 1862 | | | | 1863 | | 1864 | 1865 | 1866 | 1867 | | | 1868 | 1869 | | 1870 | 1871 | 1872 | 1873 | 1874 | 1875 | 1876 | 1877 |
| HPDQV07R | HPDQV49R | НРООW39 НРООW39К | | | | HPDQX13R | | HPDQY23R | HPDQY65R | | HPDQY95R | | | HPDQZ30R | HPDQZ65R | | HPDR A44R | HPDRA50R | HPDRF65R | HPDRG34R | HPDRG73R | HPDRM77R | HPDRM93R | HPDRO04R |
| HPDQV07 | HPDQV49 | HPDQW39 | | | | HPDQX13 | | HPDQY23 | HPDQY65 | HPDQY88 | HPDQY95 | , | | HPDQZ30 | HPDQZ65 | | HPDR A44 | HPDRA50 | HPDRF65 | HPDRG34 | HPDRG73 | HPDRM77 | HPDRM93 | HPDRO04 |

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|-------------------|-------------------|-------------------|-------------------|---------------------|---------------------|---------------------|------------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | • | | | | | | | | | | | | | | | ·*· | | | | | | | w | | | | |
| | , | | | S0132: 1, H0156: 1, | H0575: 1, H0551: 1, | H0658: 1, H0670: 1, | H0555: 1 and L0439: 1. | L0766: 11, L0752: 7, | L0754: 5, H0547: 4, | S0358: 3, S0022: 3, | L0756: 3, L0777: 3, | H0625: 2, L0065: 2, | S0438: 2, L0805: 2, | L0776: 2, H0658: 2, | S0328: 2, L0740: 2, | L0745: 2, L0747: 2, | L0750: 2, L0731: 2, | L0601: 2, H0542: 2, | H0543: 2, H0423: 2, | S0424: 2, H0341: 1, | H0661: 1, H0664: 1, | H0306: 1, H0402: 1, | H0638: 1, S0360: 1, | H0580: 1, H0645: 1, | H0443: 1, H0357: 1, | H0592: 1, H0587: 1, | H0574: 1, H0486: 1, | H0270: 1, H0156: 1, | T0048: 1, H0052: 1, |
| Cys-27 to Gly-43, | Ala-46 to Trp-54, | Ala-56 to Arg-68, | Phe-83 to Arg-93. | Thr-4 to His-17, | Ser-21 to Gln-27. | | | Thr-57 to Phe-62, | Gly-68 to Phe-73, | His-86 to Tyr-92, | Asp-97 to Phe-103. | | | | | | | | | | | | | | | | | | |
| | | • | , , | 4053 | | | | 4054 | | | | | | | | | | | | | | | | | | | | | |
| | , | : | | 249 - 509 | | | | 3 - 323 | | | | | | • | | | | | | | | | | | | | | | |
| | | | | 1878 | | | | 1879 | | | | | | | | | | | | | | | | | | | | | |
| ٠ | • | | | HPDRO64R | | | | HPDRP36R | | | | | | | | | | | | | | | | | | | | | |
| | | | | HPDR064 | | | | HPDRP36 | | | | | | | | | | | | | | | | | | | | | |

| H0375: 1, H0687: 1, H0328: 1, H0169: 1, H0598: 1, H0551: 1, H0413: 1, T0042: 1, H0561: 1, S0422: 1, L0536: 1, L0772: 1, L0649: 1, L0666: 1, L0669: 1, L0666: 1, H0659: 1, H0144: 1, H0659: 1, H0696: 1, S0380: 1, H0696: 1, S0404: 1, S0406: 1, L0749: 1, L0753: 1, L0757: 1, L0759: 1, H0445: 1, S0434: 1, S0436: 1, L0594: 1 and H0442: 1, L0594: 1 and H0422: 1. | | L0748: 3, H0556: 2, S0420: 2, S0045: 2, H0171: 1, H0265: 1, S0134: 1, H0657: 1, |
|--|--|--|
| | Gly-8 to Val-14, Gln-20 to Asp-27, Met-79 to His-88, Arg-171 to Tyr-183, Pro-198 to Gly-204. | |
| | 4055 | 4056 |
| | 2 - 622 | 27 - 290 |
| | 1880 | 1881 |
| | HPDRP41R | HPDRQ66R |
| | HPDRP41 | HPDRQ66 |

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|---|---|---|--------------------|--|
| H0341: 1, S0110: 1, H0661: 1, H0305: 1, H0580: 1, S0007: 1, S0046: 1, S0132: 1, S0278: 1, H0257: 1, H0069: 1, H0575: 1, H0412: 1, H0634: 1, H0412: 1, H0634: 1, H0633: 1, S0344: 1, H0633: 1, S0344: 1, H06435: 1, L0521: 1, L0806: 1, L0805: 1, H0672: 1, S0378: 1, L0747: 1, L0599: 1, S0026: 1 and H0542: 1. | | | | |
| | Gly-6 to Ser-16, Glu-19 to Ala-33, Glu-44 to Lys-60, Ile-135 to Lys-147. | Ala-3 to Lys-11, Gly-112 to Glu-117. | Lys-94 to Ser-100. | Lys-32 to Glu-38, Ser-44 to Ser-55, Gln-67 to Gly-78, Glu-85 to Glu-90, Gly-108 to Ser-114, Phe-149 to Lys-158. |
| · | 4057 | 4058 | 4060 | 4061 |
| · | 1 - 441 | 1 - 543 | 3 - 332 | 2 - 508 |
| | 1882 | 1883 | 1885 | 1886 |
| · | HPDRQ84R | HPDRR71R HPDRS43R | HPDRS46R | HPDRS87R |
| | HPDRQ84 | HPDRR71 | HPDRS46 | HPDRS87 |

| L0754: 19, L0731: 18, | H0521: 15, L0777: 11, | L0766: 8, L0755: 7, | H0581: 6, L0659: 6, | L0751: 6, H0486: 5, | H0266: 5, H0553: 5, | L0662: 5, L0663: 5, | H0144: 5, L0439: 5, | S0276: 5, H0638: 4, | S0360: 4, H0644: 4, | S0374: 4, S0330: 4, | L0740: 4, L0756: 4, | L0599: 4, L0362: 4, | H0423: 4, H0657: 3, | H0663: 3, H0580: 3, | H0575: 3, S0003: 3, | H0622: 3, H0124: 3, | H0264: 3, H0623: 3, | S0002: 3, L0520: 3, | L0764: 3, L0775: 3, | L0655: 3, L0519: 3, | H0519: 3, H0659: 3, | H0658: 3, S0328: 3, | L0744: 3, L0747: 3, | L0759: 3, S0026: 3, | S0194: 3, H0624: 2, | H0656: 2, H0341: 2, | S0354: 2, S0408: 2, | S0046: 2, H0619: 2, | H0013: 2, H0250: 2, |
|--------------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 4062 Lys-25 to Arg-36. | · | | | • | | | | | | | | | | | | | | | | | | - | | | | | | | |
| 4062 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 59 - 214 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1887 | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HPDRT36R | | | | | | | | | | | ,, | | | | | | | | • | | | | | | | | | | |
| HPDRT36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| H0545: 2, L0471: 2, | H0428: 2, L0142: 2, | H0551: 2, T0067: 2, | H0561: 2, H0641: 2, | S0210: 2, L0772: 2, | .0771: 2, L0794: 2, | 03: 2, L0661: 2, | 44: 2, L0793: 2, | L0666: 2, L0665: 2, | 16: 2, L0565: 2, | H0648: 2, S0152: 2, | H0522: 2, H0555: 2, | H0345: 2, S0027: 2, | .0750: 2, L.0779: 2, | .0752: 2, L.0758: 2, | 45: 2, S0434: 2, | .0591: 2, L0594: 2, | H0653: 2, H0422: 2, | H0159: 1, S0134: 1, | H0583: 1, H0650: 1, | S0212: 1, H0661: 1, | H0662: 1, H0402: 1, | S0358: 1, S0444: 1, | 08: 1, S0045: 1, | S0132: 1, H0411: 1, | H0369: 1, H0370: 1, | F0039: 1, T0060: 1, | H0042: 1, H0590: 1, | F0048: 1, H0318: 1, | H0596: 1, L0738: 1, |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|------------------|---------------------|------------------|---------------------|---------------------|---------------------|----------------------|----------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| H05 | H04 | H05 | HOS | 8021 | 107 | F080 | L05 | 106¢ | | 90H | H05: | H03 | 1075 | L075 | H04 | T056 | 90H | H01: | H05 | 8021 | 90Н | 5035 | T000 | 5013 | H036 | T003 | 00H | T00 | H05 |
| | | - | | | | | | | | | | | | | | | | - | | | | | | | | | | , | |
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| | | | | | | | | | | · | | | | | - | | | | | | | | | | | | | | |
| H0046: 1, L0157: 1, | H0565: 1, H0024: 1, | S0388: 1, H0267: 1, | 0: 1, S0214: 1, | H0328: 1, H0030: 1, | 3: 1, H0673: 1, | 9: 1, H0316: 1, | 3: 1, H0090: 1, | H0591: 1, H0040: 1, | 4: 1, H0488: 1, | H0268: 1, H0412: 1, | 3: 1, H0056: 1, | .0435: 1, H0494: 1, | S0370: 1, H0646: 1, | 2: 1, S0344: 1, | 6: 1, L0371: 1, | 6: 1, L0800: 1, | L0765: 1, L0648: 1, | 8: 1, L0389: 1, | 2: 1, L0774: 1, | L0805: 1, L0653: 1, | 6: 1, L0658: 1, | 2: 1, L0809: 1, | 7: 1, H0701: 1, | H0691: 1, S0126: 1, | H0711: 1, H0683: 1, | H0518: 1, S0454: 1, | 3: 1, H0479: 1, | S0206: 1, L0743: 1, | S0260: 1, H0343: 1, |
| H004 | H056 | 8038 | 8025 | H032 | H038 | H016 | H016 | H059 | H063 | H026 | H041 | L043 | 8037 | H065 | S042 | 1.064 | 9/07J | 9/07l | L0552: 1 | 0807 | 1707 | 1.054 | 1064 | 690H | H071 | H051 | 2001 | 8020 | 8026 |
| | | | | | | | | - | | | | | • | | · | | | | | | | | | , | | | | | |
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| L0584: 1, H0542: 1 and | S0412: 1. | | | | | | | - | | | | | | L0794: 6, L0758: 6, | L0747: 5, L0770: 4, | L0809: 4, H0620: 3, | L0764: 3, H0658: 3, | H0618: 2, H0012: 2, | H0135: 2, L0769: 2, | L0771: 2, L0773: 2, | L0662: 2, L0803: 2, | L0532: 2, S0126: 2, | L0756: 2, S6024: 1, | S0282: 1, H0638: 1, | S0420: 1, L0717: 1, | S0222: 1, H0441: 1, | H0333: 1, L0622: 1, | H0309: 1, H0597: 1, | S0388: 1, S0051: 1, |
| | | Ala-2 to Asp-9, | Arg-18 to Gly-26, | Asn-34 to Arg-43,. | Ala-52 to Asp-57. | Leu-48 to Lys-63. | | Glu-11 to Pro-16, | Arg-46 to Tyr-56, | Asp-63 to Asp-69. | | Glu-54 to Val-64, | Leu-97 to Leu-105. | Ser-14 to Gly-20. | • | | | | | | | | | | | | | | |
| | | 4063 | | • | | 4064 | 4065 | 4066 | | | 4067 | 4068 | | 4069 | | | | | | | | | | | | | | | |
| | | 3 - 560 | | | | 2 - 196 | 2 - 334 | 1 - 297 | | | 458 - 703 | 1 - 528 | | 300 - 596 | | | | | | | | | | | | | | | |
| | | 1888 | | | | 1889 | 1890 | 1891 | | | 1892 | 1893 | | 1894 | | | | | | | | | **** | | | | | | |
| | | HPDRT37R | | | | HPDRT38R | HPDRU03R | HPDRU37R | | | HPDRU71R | HPDRV73R | | HPDRV79R | _ | | | | | | | | | | | | | | |
| | | HPDRT37 | | | | HPDRT38 | HPDRU03 | HPDRU37 | | | HPDRU71 | HPDRV73 | | HPDRV79 | | | | | | | | | | | | | | | |

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| T0010: 1, H0271: 1, H0687: 1, L0483: 1, H0604: 1, H0610: 1, H0181: 1, H0617: 1, L0646: 1, L0800: 1, L0643: 1, L0374: 1, L0649: 1, L0804: 1, L0649: 1, L0804: 1, L0659: 1, L0804: 1, L0657: 1, L0807: 1, L0659: 1, L067: 1, L0659: 1, L0647: 1, L0669: 1, L0649: 1, L0666: 1, L0663: 1, L0438: 1, H0670: 1, H0627: 1, L0748: 1, L0439: 1, L0731: 1, L0757: 1, S0031: 1, L0669: 1, H0640: 1, | | | |
| · | Ala-31 to Gln-37, Lys-63 to Ser-69. | | Pro-3 to Gly-8, Pro-70 to Pro-85. |
| · · · · · · · · · · · · · · · · · · · | 4070 | 4071 | 4072 |
| | 1 - 231 | 192 - 587 | 2 - 322 |
| | 1895 | 1896 | 1897 |
| · · · · · · · · · · · · · · · · · · · | HPDRW09R | HPDRW51R | HPDRY37R |
| | HPDRW09 | HPDRW51 | |

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|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | | | | | | | | | | | | | | ······· | | | | | | | | | | | |
| | H0457: 9, L0766: 7, | H0046: 5, H0650: 4, | H0634: 3, L0659: 3, | L0439: 3, H0716: 2, | H0656: 2, H0254: 2, | H0255: 2, H0333: 2, | H0253: 2, H0081: 2, | H0083: 2, H0628: 2, | L0761: 2, L0800: 2, | H0658: 2, L0750: 2, | H0543: 2, H0422: 2, | H0265: 1, H0657: 1, | S0001: 1, S0420: 1, | S0354: 1, S0376: 1, | S0360: 1, H0722: 1, | S0045: 1, H0550: 1, | S0222: 1, H0614: 1, | H0613: 1, H0069: 1, | H0427: 1, H0575: 1, | H0318: 1, H0581: 1, | H0052: 1, H0327: 1, | H0545: 1, H0041: 1, | H0050: 1, H0354: 1, | H0266: 1, H0179: 1, | H0428: 1, H0622: 1, | S0366: 1, S0036: 1, | H0087: 1, H0264: 1, | H0488: 1, L0435: 1, |
| Arg-13 to Gly-26, Asn-35 to Gln-40. | Val-30 to Trp-36, | Ala-53 to Glu-67. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4073 | 4074 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 - 354 | 3 - 509 | | | | | | | | | | | - | | | | | | | | | | | | | | | | |
| 1898 | 1899 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HPDRZ11R | HPDRZ29R | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HPDRZ11 | HPDRZ29 | | | | | | | | | | | | | | | | | | | | | | | | | • | | |

| H0022: 1, T0041: 1, H0560: 1, S0142: 1, S0426: 1, H0695: 1, H0529: 1, L0644: 1, L0764: 1, L0662: 1, L0809: 1, L075: 1, L0809: 1, L0789: 1, L0792: 1, L0532: 1, L0663: 1, H0670: 1, H0672: 1, S030: 1, H0521: 1, S0406: 1, H0521: 1, S0406: 1, H0555: 1, H0436: 1, S3012: 1, S3014: 1, S0027: 1, H0445: 1, L0744: 1, L0749: 1, L0756: 1, H0445: 1, S0434: 1, H0136: 1, | | | L0748: 10, L0803: 3, .0439: 3, L0751: 3, .0676: 2, 1,0809: 2 | L0790: 2, H0658: 2, | .0744: 2, L0740: 2, | .0754: 2, L0747: 2, | L0756: 2, L0752: 2, |
|--|-----------|-----------|--|---------------------|---------------------|---------------------|---------------------|
| | | | Pro-2 to Lys-18. | | | | |
| | 4075 | 4076 | 4077 | | | | |
| | 774 - 484 | 243 - 380 | 40 - 315 | | | | |
| · | 1900 | 1901 | 1902 | | | | |
| · | HPDVA01R | HPDVA06R | HPDVB37R | | | | |
| | HPDVA01 | HPDVA06 | HPDVB37 | | | | |

| L0758: 2, H0170: 1, H0645: 1, H0351: 1, H0370: 1, H0497: 1, S0388: 1, T0067: 1, L0772: 1, L0643: 1, L0862: 1, L0794: 1, L0804: 1, L0774: 1, L0776: 1, L0666: 1, L0438: 1, S0044: 1, L0745: 1, L0749: 1, L0755: 1, L0757: 1 and S0031: 1. | | | | | | · | | | | | | | | | | |
|---|----------|----------|------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|
| · | | | Pro-8 to Pro-13. | Gln-22 to Val-33, | Pro-37 to Gly-45, | Ser-56 to Thr-65, | Arg-82 to Thr-92. | Glu-79 to Gln-86. | Met-32 to Lys-37, | Asp-44 to Ala-60. | Ala-32 to Thr-42, | Lys-55 to Phe-60, | Asp-85 to Gly-90, | Arg-95 to Thr-100. | Ile-20 to Gly-29, | Asn-82 to Thr-87. |
| | 4078 | 4079 | 4080 | 4081 | | | | 4082 | 4083 | | 4084 | | | | 4085 | |
| | 2 - 778 | 50 - 136 | 89 - 220 | 3 - 326 | | | | 193 - 450 | 1 - 510 | | 3 - 338 | | | | 3 - 425 | |
| | 1903 | 1904 | 1905 | 1906 | | | | 1907 | 1908 | | 1909 | | | | 1910 | |
| | HPDVB70R | HPDVC28R | HPDVESSR | HPDVG06 HPDVG06R | | | | HPDVG67R | HPDV125R | | HPDVI95R | | | | HPDVK74R | |
| | HPDVB70 | HPDVC28 | HPDVESS | HPDVG06 | | | | HPDVG67 | HPDVI25 | | HPDVI95 | | | | HPDVK74 | |

| | | | | H0656: 3, S0218: 1, | S0116: 1, S0356: 1, | H0586: 1, H0333: 1, | H0486: 1, H0427: 1, | S0280: 1, H0545: 1, | H0135: 1, H0087: 1, | H0695: 1, H0547: 1, | H0435: 1, H0658: 1, | H0670: 1, H0672: 1, | H0521: 1, L0439: 1, | H0543: 1 and H0423: 1. | H0656: 1, S0116: 1, | S0376: 1, T0110: 1, | T0042: 1, H0494: 1, | L0649: 1, L0774: 1, | L0665: 1, H0658: 1, | L0748: 1, L0757: 1, | H0667: 1 and H0543: 1. | • | | | | | | |
|---------------------------------------|-------------------|----------|----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|---------------------|
| Arg-8 to Lys-13, Gly-35 to Lys-42, | Ala-48 to Lys-54. | | | Gly-1 to Phe-8, | Pro-39 to Thr-61, | Pro-66 to Phe-71, | Arg-84 to Pro-89. | ı | | | | | | | Ala-5 to Val-11, | Leu-15 to Lys-23, | Lys-39 to Ile-44. | | | • | - | Lys-13 to Leu-24, | Arg-31 to Pro-54. | Ala-34 to Thr-46, | Asp-59 to Lys-73, | Ala-86 to Gln-94, | Pro-99 to Gln-109, | Glu-129 to Thr-141, |
| 4086 | : · | 4087 | 4088 | 4089 | | | | | | | | | | | 4090 | | | | | | | 4091 | | 4092 | | | | |
| 61 - 597 | | 2 - 697 | 8 - 265 | 1 - 303 | | | | | | | | | | | 60 - 350 | | | | _ | | | 101 - 364 | | 1 - 576 | | | | |
| 1911 | | 1912 | 1913 | 1914 | | | | | | | | | | | 1915 | | | | | | | 1916 | | 1917 | | | | |
| HPDVK79R | | HPDVK93R | HPDVL36R | HPDVL45R | | | | | | | | | | | HPDVL52R | | | | | | | HPDVM61 HPDVM61R | | HPDVM63R | | | | |
| HPDVK79 | | HPDVK93 | HPDVL36 | HPDVL45 | | | | | | | | | | | HPDVL52 | | | | | | | HPDVM61 | | HPDVM63 | | | | |

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|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
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| | H0521: 43, S0278: 39, | S0144: 30, S0142: 26, | H0522: 18, S0344: 15, | S0002: 14, H0638: 13, | H0580: 11, H0641: 10, | L0755: 10, L0599: 10, | H0250: 9, H0271: 8, | H0622: 8, H0575: 7, | S0426: 7, L0775: 7, | L0776: 7, L0751: 7, | L0754: 7, H0125: 6, | S0376: 6, S0132: 6, | H0069: 6, H0090: 6, | S0360: 5, H0486: 5, | S0022: 5, L0731: 5, | H0584: 4, H0657: 4, | 80354: 4, 80358: 4, | S0140: 4, H0581: 4, | H0674: 4, L0764: 4, | L0657: 4, L0665: 4, | S0052: 4, S0428: 4, | L0749: 4, L0752: 4, | H0445: 4, L0591: 4, | H0656: 3, L0785: 3, | H0663: 3, H0370: 3, | H0042: 3, H0004: 3, | H0318: 3, H0031: 3, | H0059: 3, L0769: 3, |
| Asp-160 to Asn- 168. | Ala-33 to Cys-41, | Thr-58 to Pro-66. | : | | | | | | | | | | | | | | | | | | | | | | | | | , |
| | 4093 | • | | | | | | | | | | | | | | | | | | | | | | | , | | | |
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| | 1918 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | HPDVM86 | | | | | | | | | | | | , | • | | | | | | | | | | | | | | |

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| L0372: 3, L0646: 3, | .0806: 3, L0659: 3, | .0666: 3, S0126: 3, | H0658: 3, H0518: 3, | H0555: 3, L0750: 3, | H0255: 2, H0662: 2, | H0637: 2, H0431: 2, | 2, H0632: 2, | H0545: 2, H0083: 2, | S0214: 2, H0644: 2, | H0032: 2, H0634: 2, | S0440: 2, H0652: 2, | , L0637: 2, | L0771: 2, L0653: 2, | ,, L0664: 2, | H0660: 2, H0134: 2, | H0187: 2, S3014: 2, | L0748: 2, L0777: 2, | , S0434: 2, | , L0601: 2, | l, H0159: 1, | 80342: 1, S0114: 1, | S0134: 1, H0650: 1, | H0661: 1, H0664: 1, | H0306: 1, H0402: 1, | H0192: 1, S0418: 1, | H0645: 1, H0393: 1, | , T0104: 1, | H0586: 1, H0497: 1, | H0331: 1, H0101: 1, |
| L0372: 3 | L0806: 3 | L0666: 3 | H0658: 3 | H0555: 3 | H0255: 2 | H0637: 2 | H0574: 2 | H0545: 2 | S0214: 2 | H0032: 2 | S0440: 2 | 1.0770: 2 | L0771: 2 | L0783: 2 | H0660: 2 | H0187: 2 | L0748: 2 | L0758: 2 | L0595: 2 | H0167: 1 | S0342: 1 | S0134: 1 | H0661: 1 | H0306: 1 | H0192: 1 | H0645: 1 | H0537: 1 | H0586: 1 | H0331: 1 |
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| H0635: 1, H0427: 1, | H0309: 1, H0231: 1, | H0544: 1, H0546: 1, | 046: 1, H0012: 1, | 620: 1, H0024: 1, | 107: 1, H0179: 1, | H0416: 1, H0188: 1, | S0003: 1, H0688: 1, | H0029: 1, H0553: 1, | 142: 1, H0628: 1, | 055: 1, H0383: 1, | H0673: 1, H0189: 1, | H0124: 1, H0068: 1, | H0063: 1, H0087: 1, | S0472: 1, L0369: 1, | .0762: 1, L0761: 1, | .0772: 1, L.0773: 1, | .0662: 1, L0767: 1, | .0387: 1, L0766: 1, | .0649; 1, L0533: 1, | .0522: 1, L0774: 1, | .0784: 1, L0652: 1, | | .0629: 1, L0544: 1, | .0367: 1, L0368: 1, | 787: 1, L0788: 1. | S0053: 1, S0216: 1, | S0374: 1, S0296: 1, | H0682: 1, H0684: 1, | S0328: 1, S0332: 1, |
| 0H | H0; |)OH |)0H | OH | HO | OH |)OS |)OH | 3 | <u> </u> | HOC | .OH | HOC | S04 | 101 101 | <u> </u> | <u> </u> | [T03 | <u> </u> | <u>S07</u> | 107 | 106 | <u>307</u> | <u> </u> | | 200 | 803 |)OH | S03 |
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| 04: 1, 79: 1, 57: 1, 11: 1, 42: 1, 50458: 1. | 8096: 4, 8089: 2, 8080: 2, 8033: 1, 8053: 0 253: 2, 70: 2, 81: 1, 77: 1, 77: 1, 77: 1, | | | 685: 1, 58: 1 and | | |
|--|---|--------------------------------------|----------|--|----------|---|
| H0214: 1, S0404: 1, H0576: 1, L0779: 1, L0780: 1, L0757: 1, L0593: 1, S0011: 1, H0665: 1, H0542: 1, H0423: 1 and S0458: 1 | AR039: 4, AR096: AR052: 2, AR089: AR061: 2, AR060: AR104: 2, AR053: L0666: 4, H0253: 2, H0622: 2, H0670: 2, L0743: 2, H0181: 1, L0743: 2, L0773: 1, L0767: 1, L0657: 1, L0758: 1, L0777: 1, L0758: 1 and L0593: | | H0658: 2 | L0754: 2, H0685: 1, T0010: 1, H0658: 1 and H0423: 1. | | |
| | Glu-1 to Asp-6, Thr-11 to Glu-20, Val-61 to Gln-66. | Pro-1 to Ala-9, Arg-17 to Glu-25. | | | | Val-1 to Glu-9, Pro-26 to Gly-31, Tyr-67 to Glu-74, |
| | 4094 | 4095 | 4096 | 4097 | 4098 | 4099 |
| · | 1 - 465 | 3 - 278 | 29 - 421 | 3 - 284 | 1 - 333 | 91 - 693 |
| | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 |
| | HPDVO67R | HPDVQ74R | HPDVQ82R | HPDVT30R | HPDVT37R | HPDVU28R |
| | HPDV067 | HPDVQ74 | HPDVQ82 | HPDVT30 | HPDVT37 | HPDVU28 |

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| | • | L0777: 6, L0766: 5, | L0749: 5, L0601: 4, | L0758: 3, H0617: 2, | I | _ | Į | S0028: 2, L0439: 2, | L0751: 2, L0747: 2, | L0779: 2, L0588: 2, | S0114: 1, H0650: 1, | H0657: 1, H0402: 1, | H0638: 1, S0354: 1, | S0360: 1, S0045: 1, | S6026: 1, H0550: 1, | H0156: 1, H0253: 1, | H0421: 1, T0115: 1, | H0150: 1, H0014: 1, | S0051: 1, S6028: 1, | H0688: 1, L0483: 1, | H0181: 1, H0163: 1, | H0090: 1, H0087: 1, | H0560: 1, H0646: 1, | S0210: 1, L0763: 1, | L0638: 1, L0761: 1, | L0784: 1, L0806: 1, | L0776: 1, L0655: 1, | L0659: 1, L0384: 1, | L0789: 1, H0690: 1, |
| Phe-107 to Glu-118, | Lys-162 to Arg-173. | Ser-1 to His-7, | Thr-15 to Arg-29, | His-31 to Val-42, | Pro-52 to Pro-94, | Glu-113 to Ala-131, | Lys-161 to Arg-167. | | | | | | - | | | | | | | | | | | | | | | | |
| | | 4100 | | | | | | | | | | | | | | | | | | | | | | | | • | | | |
| | | 3 - 548 | | | | | - | , | | | | | | | | | | | | | | | | | | | | | |
| | | 1925 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | HPDVU72R | | | | | | | | | | | | | | | | | | | | | | | _ | | | | |
| | | HPDVU72 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| H0684: 1, H0658: 1, | L0731: 1, L0757: 1, | L0595: 1, S0276: 1 and | H0506: 1. | | | H0658: 2 | | | | | | | | | H0271: 13, H0436: 11, | L0766: 8, H0581: 5, | L0754: 5, S0242: 5, | H0556: 4, H0635: 4, | L0800: 4, L0662: 4, | L0804: 4, L0655: 4, | L0659: 4, L0789: 4, | L0751: 4, L0757: 4, | L0591: 4, S0356: 3, | H0069: 3, H0416: 3, | L0803: 3, L0747: 3, | H0445: 3, H0423: 3, | H0422: 3, H0395: 2, |
| | | | | Pro-6 to Ala-16. | | | | Arg-1 to Glu-8, | Ala-31 to Trp-39. | | Ala-3 to Ala-10, | Pro-15 to Pro-23, | Glu-79 to Ser-88, | Pro-115 to Arg-122. | | | | | | | _ | | | | | | |
| | | | | 4101 | 4102 | 4103 | 4104 | 4105 | | 4106 | 4107 | | | | 4108 | _ | | | | | | | | | | | |
| | | | | 3 - 191 | 78 - 644 | 3 - 302 | 3 - 560 | 175 - 306 | | 231 - 383 | 1 - 390 | | | | 214 - 471 | | | | | | | | | | | | |
| | | | | 1926 | 1927 | 1928 | 1929 | 1930 | | 1931 | 1932 | | | | 1933 | | | | | | | | | | | | |
| | | | ٠ | HPDVU88R | HPDVV78R | HPDWA35 HPDWA35R | HPDWA88 HPDWA88R | HPDWB40 HPDWB40R | | HPDWC30R | HPDWC75 HPDWC75R | | | | HPDWD44 HPDWD44R | | | | | | | | | | | | |
| | | | | HPDVU88 | HPDVV78 | HPDWA35 | HPDWA88 | HPDWB40 | | HPDWC30 | HPDWC75 | | | | HPDWD44 | | | | | | | | | | | | |

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| S0134: 2, H0662: 2, | H0402: 2, S0354: 2, | S0046: 2, S0132: 2, | H0587: 2, H0642: 2, | H0014: 2, H0179: 2, | H0644: 2, H0032: 2, | 0090: 2, H0396: 2, | H0633: 2, S0422: 2, | 0375: 2, L0806: 2, | 0607: 2, L0666: 2, | 0663: 2, S0052: 2, | 3053: 2, S0216: 2, | H0521: 2, L0740: 2, | .0779: 2, L0777: 2, | 3758: 2, L0596: 2, | .0599: 2, H0394: 1, | 0114: 1, H0657: 1, | H0656: 1, S0298: 1, | 0306: 1, S0376: 1, | H0411: 1, H0607: 1, | H0632: 1, H0257: 1, | 0492: 1, H0486: 1, | .0021: 1, H0318: 1, | H0196: 1, H0545: 1, | 10457: 1, H0083: 1, | 5028: 1, L0483: 1, | H0591: 1, H0634: 1, | H0623: 1, H0560: 1, | H0641: 1, S0344: 1, | .0770: 1, L0372: 1, |
| S | Ħ | <u>SC</u> | Ħ | H | Ē | Ĥ | Ä | <u> </u> | <u> </u> | ĭ | <u>S</u> | H | 7 | <u> </u> | <u> </u> | <u>SC</u> | H | H | H |)H |)H | 27 | H | H | 9S |)H |)H | H | 3 |
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| L0646: 1, L0794: 1, L0774: 1, L0653: 1, L0776: 1, L0657: 1, L0783: 1, L0664: 1, L0665: 1, S0428: 1, S0374: 1, H0689: 1, H0690: 1, H0658: 1, H0672: 1, S0378: 1, H06718: 1, H0576: 1, H0678: 1, S0378: 1, | | Ser-1 to His-19, L0588: 18, S0408: 16, Val-86 to Pro-105, S0007: 12, S0444: 11, Pro-110 to Met-117. H0677: 11, H0648: 10, L0769: 9, H0670: 9, S0328: 9, H0651: 8, S0406: 8, H0657: 7, H0341: 7, H0402: 7, H0543: 7, T0049: 6, H0251: 6, L0775: 6, L0777: 7, S0174: 4, S0134: 5, S013 |
| • | Asp-65 to Gly-73. | Ser-1 to His-19, Val-86 to Pro-105, Pro-110 to Met-117. |
| | 4109 | 4110 |
| · | 220 - 2 | 3 - 353 |
| | 1934 | |
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| | HPDWD67 | 69СМОДН |

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| H0656: 4, H0639: 4, | H0687: 4, H0606: 4, | L0767: 4, L0518: 4, | L5286: 4, H0682: 4, | L0752: 4, L0759: 4, | L0605: 4, L0361: 4, | H0685: 3, H0294: 3, | H0305: 3, S0356: 3, | S0358: 3, S0360: 3, | H0722: 3, S0046: 3, | L0622: 3, H0486: 3, | T0109: 3, T0003: 3, | T0067: 3, H0412: 3, | S0438: 3, S0422: 3, | L0520: 3, L0371: 3, | L0770: 3, L0768: 3, | L0766: 3, L5574: 3, | L0376: 3, L0776: 3, | S0126: 3, H0689: 3, | L0740: 3, L0758: 3, | H0542: 3, H0352: 3, | T0002: 2, H0159: 2, | S0040: 2, H0713: 2, | H0716: 2, S0218: 2, | L0785: 2, H0661: 2, | H0638: 2, H0125: 2, | S0410: 2, H0351: 2, | H0586: 2, H0587: 2, | H0333: 2, H0492: 2, | L0623: 2, S0182: 2, |
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| H0581: 2, S0049: 2. | H0083: 2, H0031: 2, | H0163: 2, H0551: 2, | H0059: 2, S0210: 2, | .0762: 2, L0764: 2, | , L0653: 2, | , L0634: 2, | , L0783: 2, | .0543: 2, L0368: 2, | H0691: 2, H0547: 2, | H0690: 2, H0684: 2, | S0330: 2, H0710: 2, | , L0747: 2, | , L0777: 2, | , L0590: 2, | , L0599: 2, | , L0604: 2, | 0362: 2, H0653: 2, | H0721: 2, H0686: 1, | S0430: 1, L0760: 1, | S0116: 1, S0212: 1, | , H0663: 1, | H0306: 1, H0458: 1, | H0459: 1, L0534: 1, | .0005: 1, S0442: 1, | , S0045: 1, | S0132: 1, S0476: 1, | H0393: 1, H0640: 1, | H0411: 1, S0278: 1, | H0455: 1, H0592: 1, |
| H0581: 2 | H0083: 2 | H0163: 2 | H0059: 2 | L0762: 2 | L5564: 2, | L0655: 2, | L0526: 2, I | L0543: 2, | H0691: 2 | H0690: 2 | S0330: 2, | L0754: 2, | L0750: 2, I | 1.0755: 2, | L0581: 2, | 1,0608: 2, | L0362: 2, | H0721: 2 | S0430: 1, | S0116: 1, | H0484: 1 | H0306: 1 | H0459: 1 | L0005: 1, | 50376: 1, 50045: | S0132: 1, | H0393: 1 | H0411: 1 | H0455: 1 |
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| T0039: 1, T0060: 1, | H0706: 1, S0010: 1, | F0048: 1, H0318: 1, | H0309: 1, H0596: 1, | [0115: 1, L0040: 1, | H0231: 1, H0546: 1, | H0545: 1, H0009: 1, | H0057: 1, H0018: 1, | S0051: 1, H0510: 1, | H0375: 1, H0109: 1, | S0022: 1, H0328: 1, | H0688: 1, H0039: 1, | F0023: 1, T0006: 1, | 10424: 1, H0628: 1, | H0673: 1, H0708: 1, | S0366: 1, S0036: 1, | H0135: 1, H0040: 1, | H0634: 1, H0063: 1, | 10087: 1, H0116: 1, | H0264: 1, H0413: 1, | H0100: 1, L0564: 1, | 10494: 1, H0561: 1, | H0641: 1, H0646: 1, | 30144: 1, S0344: 1, | L0506: 1, L0761: 1, | .0646: 1, L0771: 1, | .0648: 1, L0521: 1, | .0375: 1, L0806: 1, | .0654: 1, L0661: 1, |
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| L0807: 1, L0542: 1, L0519: 1, L0530: 1, L0790: 1, L0663: 1, H0144: 1, H0724: 1, H0660: 1, H0666: 1, H0672: 1, H0518: 1, H0134: 1, H0187: 1, H0134: 1, H0187: 1, L0779: 1, L0751: 1, S0028: 1, L0751: 1, S0028: 1, L0757: 1, S0436: 1, H0668: 1, S0424: 1. | | | H0575: 2, L0002: 1, S0336: 1, H0487: 1, L0762: 1, L0637: 1, L0805: 1, L0659: 1, H0658: 1, L0777: 1 and L0731: 1. | | H0038: 5, H0616: 3, L0752: 3, S0418: 2, H0620: 2, H0547: 2, L0602: 2, H0521: 2, |
|---|--|-----------------|---|------------------|--|
| | Asn-60 to Gly-72, Pro-83 to Trp-114, Ser-117 to Arg-126. | Arg-1 to Gln-9. | | Pro-3 to Pro-12. | Phe-1 to Cys-13, Gly-28 to Ser-35. |
| | 4111 | 4112 | 4113 | 4114 | 4115 |
| | 1 - 378 | 2 - 121 | 248 - 559 | 1 - 507 | 169 - 342 |
| | 1936 | 1937 | 1938 | 1939 | 1940 |
| · | HPDWD81 HPDWD81R | HPDWE11R | | HPDWF93R | HPDWG51R |
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| L0751: 2, S0212: 1, S0282: 1, H0638: 1, S0358: 1, S0007: 1, H0261: 1, H0575: 1, L0471: 1, L0163: 1, H0671: 1, H0510: 1, S0003: 1, H0488: 1, S0038: 1, S0144: 1, L0803: 1, S0126: 1, H0658: 1, S0044: 1, S0013: 1, S0044: 1, L0743: 1, L0744: 1, L0748: 1, L0759: 1, L0748: 1, L0759: 1, L0599: 1 and S0424: 1. | | • | H0556: 30, H0659: 9, L0439: 9, S0406: 8, H0494: 7, S0360: 6, L0771: 6, H0634: 5, S0206: 5, L0777: 5, H0265: 4, H0657: 4, S0328: 4, S0152: 4, S0146: 4, L0748: 4, L0751: 4, L0749: 4, H0423: 4, S0040: 3, H0497: 3, H0623: 3, |
| | | | Arg-21 to Gly-32, Pro-63 to Ser-79, Thr-92 to Pro-100, Glu-107 to Glu-126, Glu-133 to Ser-146, Ser-148 to Thr-157. |
| , | 4116 | 4117 | 4118 |
| | 2 - 388 | 174 - 308 | 1 - 585 |
| | 1941 | 1942 | 1943 |
| | HPDWL56R | HPDWL70 HPDWL70R | |
| · | HPDWL56 | HPDWL70 | HPDWN46 |

| H0529: 3, L0761: 3, | L0665: 3, H0144: 3, | H0555: 3, S0026: 3, | H0656: 2, H0341: 2, | S0212: 2, S0418: 2, | S0356: 2, H0675: 2, | S0046: 2, H0411: 2, | H0586: 2, H0581: 2, | H0615: 2, H0553: 2, | H0591: 2, S0440: 2, | S0422: 2, L0772: 2, | L0438: 2, H0711: 2, | H0521: 2, S0404: 2, | S3014: 2, L0743: 2, | L0740: 2, H0170: 1, | H0171: 1, H0159: 1, | H0686: 1, S0342: 1, | H0294: 1, S0114: 1, | T0049: 1, S0116: 1, | H0661: 1, H0458: 1, | S0420: 1, S0376: 1, | S0444: 1, H0437; 1, | S6022: 1, H0550: 1, | H0362: 1, H0642: 1, | H0574: 1, H0559: 1, | S0280: 1, H0590: 1, | H0004: 1, H0363: 1, | H0263: 1, H0596: 1, | H0081: 1, H0014: 1, | H0688: 1, H0628: 1, |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 7.77 | | | | | | | | | | | | | | | | | | | | | - | | |
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| L0055: 1, H0673: 1, H0068: 1, H0551: 1, T0069: 1, L0435: 1, L0369: 1, L0435: 1, L0369: 1, L074: 1, L0764: 1, L0774: 1, L0775: 1, L0806: 1, L0655: 1, L0606: 1, L0657: 1, L0792: 1, H0701: 1, S0126: 1, H0679: 1, S0126: 1, H0648: 1, S0126: 1, L074: 1, L074: 1, L0779: 1, H0647: 1, | | | L0766: 5, H0551: 3, L0769: 3, L0639: 3. | H0327: 2, S0002: 2, L0764: 2, L0659: 2, |
|--|----------|--------------------------------------|--|--|
| | | Gly-2 to Pro-9, Ser-24 to Thr-33. | | |
| | 4119 | 4120 | 4121 | |
| | 1 - 246 | 2 - 607 | 351 - 704 | |
| | 1944 | 1945 | 1946 | |
| · | HPDWN65R | HPDWN69R | HPDWO08 HPDWO08R | |
| | HPDWN65 | HPDWN69 | HPDWO08 | |

| L0663: 2, L0777: 2, S0356: 1, S0360: 1, S0410: 1, L0717: 1, H0261: 1, H0550: 1, S0222: 1, T0109: 1, H0575: 1, T0048: 1, H0575: 1, H0124: 1, H0135: 1, H0124: 1, H0135: 1, H0164: 1, L0770: 1, L0763: 1, L0770: 1, L0796: 1, L0761: 1, L0643: 1, L0522: 1, L0635: 1, H0542: 1, L0658: 1, H0547: 1, H0658: 1, H0547: 1, H0658: 1, | | | | L0770: 12, H0657: 10, H0659: 9. L0776: 8. | H0648: 8, L0755: 8, | L0774: 7, S0410: 6, | H0494: 6, L0769: 6, | L0750: 6, S0408: 5, | S0440: 5, L0775: 5, |
|--|------------------|--|----------|--|---------------------|---------------------|---------------------|---------------------|---------------------|
| | His-1 to Gly-13. | Arg-90 to Lys-95, Pro-121 to Trp-129. | | Ala-3 to Glu-8. | | | | | |
| | 4122 | 4123 | 4124 | 4125 | | | | | |
| | 386 - 568 | 27 - 455 | 2 - 358 | 1 - 342 | | • | | | |
| | 1947 | 1948 | 1949 | 1950 | | | | | |
| | HPDWO29 HPDWO29R | HPDWO50R | HPDW061R | | | | | | |
| | HPDW029 | HPDWO50 | HPDW061 | HPDW082 | | | | | |

| 60: 4, | 77:4, | 759: 4, | 358: 3, | 766: 3, | 747: 3, | 758: 3, | 170: 2, | 685: 2, | 120: 2, | 09: 2, | 545: 2, | 331: 2, | 560: 2, | 38: 2, | 72: 2, | 18: 2, | [44: 2, | 50: 2, | 570: 2, | 145: 2, | 565: 2, | 34: 1, | 563: 1, | 538: 1, | H2: 1, | 369: 1, | 431: 1, | 069: 1, | 148: 1, |
|---------------------|---------------------|---------------------|------------------|--------------|---------------|---------------------|---------------|---------------------|---------------|---------------------|---------------------|---------------------|------------------|---------------------|---------------|---------------------|---------------------|---------------------|------------------|---------------------------|---------------------|--------------------|---------------|--------------------|------------------|------------------|------------------|--------------------|------------------|
| S0376: 4, S0360: 4, | L0748: 4, L0777: 4, | L0752: 4, L0759: 4, | H0341: 3, S0358: | H0616: 3, LO | L0740: 3, L07 | L0731: 3, L0758: 3, | S0026: 3, H01 | H0556: 2, H0685: 2, | H0656: 2, S04 | S0444: 2, T0109: 2, | H0156: 2, H0545: 2, | L0471: 2, H0031: 2, | H0040: 2, H0560: | L0065: 2, S0438: 2, | L0763: 2, L07 | L0764: 2, L0518: 2, | L0783: 2, H0144: 2, | S0374: 2, H0520: 2, | H0658: 2, H0670: | L0753: 2, H0 ² | S0434: 2, H0665: 2, | S0194: 2, S0134: 1 | S0116: 1, H06 | L0481: 1, H0638: 1 | H0125: 1, S0442: | H0351: 1, H0369: | H0550: 1, H0431: | H0331: 1, H0069: 1 | S0346: 1, T0048: |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-----------|---------------------|---------------------|
| S0182: 1, S0049: 1, | H0563: 1, H0081: 1, | H0620: 1, H0014: 1, | H0373: 1, H0083: 1, | H0375: 1, H0428: 1, | H0708: 1, H0634: 1, | H0412: 1, H0413: 1, | L0475: 1, H0386: 1, | L0598: 1, H0529: 1, | L0520: 1, L0762: 1, | L0371: 1, L0638: 1, | L0373: 1, L0646: 1, | L0773: 1, L0521: 1, | L0662: 1, L0805: 1, | L0655: 1, L0517: 1, | L0540: 1, L0542: 1, | L0526: 1, L0809: 1, | L0545: 1, L0791: 1, | L0663: 1, L0665: 1, | H0691: 1, H0547: 1, | H0690: 1, H0435: 1, | H0660: 1, H0651: 1, | S0380: 1, S0406: 1, | L0749: 1, L0780: 1, | H0668: 1, H0653: 1, | S0242: 1, S0276: 1, | H0542: 1, H0422: 1 and | H0506: 1. | H0617: 8, S0404: 8, | H0484: 7, H0550: 7, |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | Asp-15 to Val-20. | |
| | | | , | | | | | | | | | | | | | | | | | | | | | | | | | 4126 | |
| | | | | • | | | | | | | | | | | • | | | | | | | | | | | | | 73 - 321 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1921 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | HPDWS61R | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | HPDWS61 | |

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|---------------------|---------------------|---------------------|---------------------|------------------|---------------------|---------------------|----------------|------------------|---------------------|---------------------|---------------------|---------------------|----------------|----------------|---------------------|---------------------|--------------------|--------------------|--------------------|----------------|--------------------|---------------------|----------------|------------------|------------------|------------------|------------------|---------------------|------------------|
|)6: 4; | 96: 4, | 5:3, | 0:3, | 53: 3, | 8: 2, | 3: 2, | 6: 2, | 73: 2, | 4: 2, | 6: 2, | 0: 2, | 2: 2, | 3: 2, | 8: 2, | 2, | 7: 2, | 4: 1, | 31: 1, | 7. 1, | 6: 1, | 8: 1, | 1:1, | 6: 1, | 36: 1, | 99: 1, | 21: 1, | [4: 1, | 1:1, | 22: 1, |
| L0758: 5, H0606: 4. | H0658: 4, H0696: 4, | S0276: 4, H0295: 3, | S0280: 3, H0150: 3, | H0188: 3, H0163: | L0769: 3, S0408: 2, | L0622: 2, L0623: 2, | T0060: 2, T000 | H0181: 2, H0673: | H0494: 2, L0764: 2, | L0775: 2, L0776: 2, | L0514: 2, L0510: 2, | L0511: 2, L0512: 2, | L0540: 2, L078 | L0809: 2, L052 | H0683: 2, H0694: 2, | L0744: 2, L0747: 2, | S0031: 2, S6024: 1 | H0294: 1, H0381: 1 | H0483: 1, H0664: 1 | H0662: 1, S035 | S0442: 1, S0358: 1 | S0376: 1, H0411: 1, | S6022: 1, H058 | H0333: 1, H0036: | H0590: 1, H0309: | H0044: 1, H0121: | H0081: 1, H0014: | S0388: 1, S0051: 1, | H0252: 1, H0622: |
| | ***** | | | | | | | | | | | | | | | | | | | | | | - | | | | | | |
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| L0483: 1, H0033: 1, H0111: 1, H0032: 1, H0166: 1, S0438: 1, L0762: 1, L0504: 1, L0381: 1, L0803: 1, L0375: 1, L0376: 1, L0509: 1, L075: 1, L0518: 1, L0782: 1, L0548: 1, L0782: 1, L0548: 1, H0693: 1, S0126: 1, H0651: 1, L0777: 1, L0751: 1, | H0445: 1, H0667: 1, S0194: 1 and S0398: 1. | Ala-37 to Ser-42, L0774: 3, H0658: 3, Gly-127 to Thr-134, L0803: 2, L0439: 2, H0619: 1, H0586:-1, H0309: 1, S0366: 1, | 1000%, 1 alla 5000%, 1. | | L0748: 18, L0755: 7, H0251: 6, L0777: 6, | H0658: 4, L0754: 4, | L0779: 4, S0360: 3, | S0276: 3, H0674: 2, | L0767: 2, L0766: 2, |
|---|---|---|---|----------|---|---------------------|---------------------|---------------------|---------------------|
| | | Ala-37 to Ser-42, Gly-127 to Thr-134. | Arg-4 to Gly-17, Pro-39 to Lys-46, His-96 to Arg-102. | | Leu-4 to Phe-9, Gly-29 to Glu-39. | | | | |
| | | 4127 | 4128 | 4129 | 4130 | | | | |
| | | 3 - 503 | 12 - 746 | 1 - 705 | 1 - 702 | | | | |
| | | 1952 | 1953 | 1954 | 1955 | | | | |
| · | | HPDWT55R | HPDWT56R | HPDWU47R | HPDWU55R | | | | |
| | | HPDWT55 | HPDWT56 | HPDWU47 | HPDWU55 | | | | |

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|---|---|
| L0775: 2, L0809: 2, H0689: 2, L0757: 2, S0358: 1, S0046: 1, H0013: 1, H0427: 1, H0123: 1, H0252: 1, H0031: 1, H0617: 1, L0769: 1, L0773: 1, L0774: 1, L0375: 1, L0774: 1, L0375: 1, L0776: 1, L0639: 1, L0776: 1, L0639: 1, L0776: 1, L0839: 1, L0665: 1, H0144: 1, H0670: 1, S0328: 1, H0696: 1, S0027: 1, | LU758: 1, LU759: 1 and S0434: 1. LU766: 7, LU748: 6, LU771: 5, S0422: 3, H0519: 3, L0749: 3, L0756: 3, H0735: 2, H0641: 2, H0529: 2, L0659: 2, S0374: 2, L0758: 2, H0484: 1, S0442: 1, S042: 1, S042: 1, L0483: 1, H0606: 1, H0268: 1, S0150: 1, L0763: 1, |
| · . | Pro-50 to Trp-55. |
| | 4131 |
| | 2 - 568 |
| | 1956 |
| | HPDWU60R |
| | HPDWU60 |

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|---|--|--|
| | | |
| L0637: 1, L0764: 1, L0768: 1, L0774: 1, L0653: 1, L0809: 1, L0666: 1, H0144: 1, L0438: 1, H0520: 1, H0547: 1, H0658: 1, S0328: 1, H0659: 1, S0406: 1, S0027: 1, L0744: 1, L0751: 1, L0777: 1, L0592: 1, L0608: 1, L0593: 1, | | L0740: 3, L0758: 3, S0242: 3, L0598: 2, L0766: 2, L0803: 2, H0435: 2, L0778: 2, L0778: 2, L0731: 2, L0757: 2, H0170: 1, S0300: 1, H0687: 1, H0616: 1, H0674: 1, H0616: 1, L0770: 1, L0637: 1, L0770: 1, L0637: 1, L0770: 1, L065: 1, L0794: 1, L0804: 1, L0794: 1, L0804: 1, |
| | Ala-51 to Tyr-56, Ala-92 to Ser-101, Ser-118 to Ile-123. | Asp-14 to Ala-19. |
| · | 4132 | 4133 |
| | 2 - 370 | 38 - 163 |
| · | 1957 | 1958 |
| | HPDWU63 HPDWU63R | HPFMP90R |
| | нрржи63 | HPFMP90 |

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|--|---------------------------------------|------------------|---|--------------------|-----------|-----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| L0775: 1, L0784: 1, L0805: 1, L0776: 1, L0666: 1, L0664: 1, L0665: 1, L0438: 1, H0689: 1, L0439: 1, L0754: 1, L0750: 1, L0759: 1 and L0480: 1. | | | H0255: 2, S0114: 1, L0510: 1 and S0216: 1. | | | | L0809: 5, L0666: 4, | L0747: 3, L0750: 3, | L0764: 2, L0803: 2, | L0774: 2, L0651: 2, | L0663: 2, L0664: 2, | L0748: 2, L0756: 2, | L0779: 2, L0755: 2, | H0669: 1, H0392: 1, | H0600: 1, S0346: 1, | H0494: 1, H0646: 1, | L0763: 1, L0371: 1, | L0372: 1, L0775: 1, | L0659: 1, L0518: 1, | L0788: 1, L0665: 1, | S0330: 1, S0392: 1, |
| · | Phe-5 to Leu-11, Ser-20 to Arg-45. | Gly-4 to Asn-9. | Pro-11 to Lys-16, Val-18 to Arg-45, | Asir-50 to Oth-07. | | | | | | | | | | | | | , | | • | | |
| | 4134 | 4135 | 4136 | 4137 | 4138 | 41.30 | 4139 | | | | | | | | | | | | | | |
| | 209 - 394 | 3 - 182 | 2 - 364 | 259-6 | 114 212 | 114 - 412 | 239 - 412 | | | | | | | | | • | | | | | |
| | 1959 | 1960 | 1961 | 1062 | 1063 | 1703 | 1964 | | | | | | | | | | | | | | |
| | HPIAL09R | HSAMY44 HSAMY44R | HSAYW59 HSAYW59R | HSCP117P | USDIA 22D | HSDIA22R | HSDII65R | | | | | | | | | | | | | | |
| | HPIAL09 | HSAMY44 | HSAYW59 | HSC DI17 | HSDI31/ | HSDIA22 | HSDII65 | | | | | | | | | | | | | | |

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|---------------------|---------------------|------------------------|-----------|----------|-------------------|------------------|-----------|---------------------|----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-------------------|-------------------|---------------------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L0749: 1, L0752: 1, | L0757: 1, S0260: 1, | L0596: 1, L0591: 1 and | L0608: 1. | | | 4, AR089: | 3, AR060: | AR055: 1, AR039: 0, | AR052: 0 | L0774: 3, L0752: 3, | L0592: 3, H0625: 2, | L0662: 2, L0747: 2, | L0777: 2, H0580: 1, | L0717: 1, H0455: 1, | S0280: 1, H0251: 1, | H0633: 1, L0773: 1, | L0768: 1, L0794: 1, | L0803: 1, L0775: 1, | L0653: 1, L0776: 1, | L0661: 1, L0659: 1, | L0526: 1, L0809: 1, | L0665: 1, H0658: 1, | H0696: 1, L0755: 1, | L0731: 1, L0757: 1, | L0759: 1 and H0352: 1. | | | |
| | | | | | Ser-20 to Ser-31. | Trp-1 to Ala-10. | | | | | | | | | | | | | | | | | | | | Lys-18 to Lys-30. | Pro-14 to Lys-26. | Leu-117 to Trp-123. |
| | | | | 4140 | 4141 | 4142 | | | | | | | | | | | | | | | | | | | | 4143 | 4144 | 4145 |
| | | | | 2 - 187 | 2 - 169 | 40 - 141 | | | | | | | | | | | | | | | | | | | | 40 - 180 | 3 - 80 | 2 - 400 |
| | | | | 5961 | 1966 | 1967 | | | | | | | | | | | | | | | | | · | | | 1968 | 1969 | 1970 |
| | | | | HSDIX73R | HSDJI25R | HSDZE12R | | | | | | | | | | | | | | | | | | | | HSDZJ21R | HSIFF84R | HSKJR50R |
| | | | | HSDIX73 | HSDJI25 | HSDZE12 | | | | | | | | | | | | | | | | | | | | HSDZJ21 | HSIFF84 | HSKJR50 |

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|-------------------|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-------------------|---------------------|------------------|-------------------|-------------------|--------------------|---------------------|---------------------|------------------|-------------------|----------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | H0596; 5, S0388; 4, H0598; 4, H0595; 4, S0412; 4, S0282; 3, | S0280: 2, H0594: 2, | H0366: 2, H0542: 2, | H0395: 1, H0589: 1, | S0356: 1, H0411: 1, | H0592: 1, H0559: 1, | H0427: 1, S0050: 1, | H0373: 1, S0344: 1, | H0436: 1, S0260: 1, | S0194: 1 and H0506: 1. | | | | , | | , | | | | | | | L0755: 5, L0748: 4, | H0616: 3, L0769: 3, | L0752: 3, L0731: 3, | L0757: 3, S0356: 2, | S0408: 2, S0046: 2, |
| Asn-45 to Ser-54. | | | | | | | | | | | Glu-77 to Arg-82, | Pro-132 to Met-139. | Ile-1 to Ala-11, | Asp-67 to Leu-78, | Asn-81 to Ser-90, | Pro-96 to Glu-110, | Ala-164 to Ala-171, | Gln-173 to Lys-179. | Ala-1 to Cys-21, | Trp-23 to Ser-33. | | Leu-43 to Thr-58. | Ser-41 to He-50, | Gln-55 to Glu-65, | Cys-69 to Asp-78. | | |
| 4146 | 4147 | | | | | | | | | | 4148 | | 4149 | | | | | | 4150 | | 4151 | 4152 | 4153 | | | | |
| 2 - 196 | 1 - 174 | | | | • | | | | | | 1-612 | | 3 - 539 | | | | | | 1 - 162 | | 2 - 631 | 1 - 342 | 3 - 293 | | | | |
| 1971 | 1972 | | | | | | | | | | 1973 | | 1974 | | | | | | 1975 | | 1976 | 1977 | 1978 | | | | |
| | HSODB16R | | | | | | | | | | HSPSB24R | | HSPSB70R | | | _ | | | HSPSB74R | | HSPSB80R | HSPSC30R | HSPSE86R | | | | , |
| HSLHT27 | HSODB16 | | | | | | | | | | HSPSB24 | | HSPSB70 | | | | | | HSPSB74 | | HSPSB80 | HSPSC30 | HSPSE86 | | | | |

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|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|-----------------------|
| | | | | | | | | | | | | | | | | , | | | | | | | | | | | | | |
| L0770: 2, L0771: 2, | L0776: 2, L0526: 2, | .0747: 2, L0750: 2, | .0756: 2, L0758: 2, | L0759: 2, L0588: 2, | H0170: 1, L0459: 1, | H0484: 1, S0358: 1, | 50360: 1, H0637: 1, | S0045: 1, S0132: 1, | H0393: 1, S0278: 1, | F0039: 1, H0427: 1, | H0318: 1, S0049: 1, | H0009: 1, H0081: 1, | F0003: 1, H0051: 1, | H0083: 1, S0003: 1, | 10622: 1, H0708: 1, | H0316: 1, H0038: 1, | H0063: 1, H0412: 1, | S0038: 1, S0150: 1, | H0529: 1, L0762: 1, | .0763: 1, L.0646: 1, | .0644: 1, L0768: 1, | .0766: 1, L0774: 1, | .0775: 1, L0661: 1, | .0657: 1, L0782: 1, | .0788: 1, L.0666: 1, | .0665: 1, H0683: 1, | H0660: 1, S0378: 1, | 30406: 1, L0777: 1, | H0445: 1 and H0542: 1 |
| |) | ш. | | F | | | <u> </u> | <u> </u> | . 1244 . | | <u></u> | <u>. 141</u> | | | | <u>بطم</u> | | <u>03</u> | <u> </u> | | 1 | 1 | | H | <u> </u> | | <u> </u> | <u>. 01</u> | |
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| H0124: 19, H0052: 10, | .0751: 7, L0747: 7, | H0255: 6, H0441: 6, | H0556: 5, S0222: 5, | H0265: 4, S0360: 4, | H0620: 4, L0655: 4, | H0144: 4, L0439: 4, | L0596: 4, L0601: 4, | S0132: 3, H0575: 3, | H0123: 3, H0012: 3, | H0024: 3, H0617: 3, | H0087: 3, H0529: 3, | 764: 3, L0662: 3, | .0766: 3, L0663: 3, | .0565: 3, L0438: 3, | H0660: 3, L0743: 3, | .0740: 3, H0445: 3, | H0218: 2, H0585: 2, | S0418: 2, S0444: 2, | S0408: 2, H0208: 2, | S0278: 2, H0261: 2, | H0333: 2, H0706: 2, | H0581: 2, S0049: 2, | H0009: 2, L0471: 2, | S0051: 2, T0010: 2, | H0083: 2, H0594: 2, | F0006: 2, H0628: 2, | H0038: 2, S0440: 2, | S0142: 2, S0344: 2, | L5565: 2, L5566: 2, |
|------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 4154 Leu-41 to Asp-48. F | 3 | H | H | <u>H</u> |)H | H | 07 | 0S |)H | H |)H | 21 | 07 | 21 |)H | 07 |)H | <u>SO</u> | <u>80</u> | <u>S</u> |)H |)H |)H | <u>S</u> 0 |)H | TO |)H | <u>so</u> | LS |
| | | | | | | | | | - | | | | | | _ | | | | | | | | | | _ | | | | |
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| L0776: 2, L0657: 2, | L0659: 2, L0666: 2, | L0665: 2, H0683: 2, | H0658: 2, H0670: 2, | S0146: 2, L0748: 2, | L0756: 2, L0752: 2, | L0755: 2, L0731: 2, | L0758: 2, L0587: 2, | L0361: 2, H0624: 1, | T0002: 1, H0141: 1, | H0717: 1, S0402: 1, | H0295: 1, S0114: 1, | L0785: 1, H0341: 1, | S0212: 1, S0282: 1, | H0722: 1, S0007: 1, | S0046: 1, S0476: 1, | H0619: 1, S0300: 1, | H0351: 1, H0411: 1, | H0392: 1, H0574: 1, | H0492: 1, L0622: 1, | L0623: 1, H0244: 1, | H0250: 1, H0156: 1, | H0618: 1, T0048: 1, | H0434: 1, H0309: 1, | H0597: 1, H0231: 1, | H0544: 1, H0546: 1, | H0046: 1, H0150: 1, | H0050: 1, S0050: 1, | H0016: 1, H0373: 1, | H0051: 1, H0071: 1, |
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| 10271: 1, | 30022: 1, | H0615: 1, | H0033: 1, | 10424: 1, | .0055: 1, | H0068: 1, | 10040: 1, | 10412: 1, | 10100: 1, | .0435: 1, | 30306: 1, | I0647: 1, | 0002: 1, | .0762: 1, | .0371: 1, | .0769: 1, | .0637: 1, | .0772: 1, | .0641: 1, | .0648: 1, | .0768: 1, | .0653: 1, | .0559: 1, | .0783: 1, | .0545: 1, | .0543: 1, | 4559: 1, | .0352: 1, | H0547: 1, |
| S6028: 1, H0271: | H0687: 1, S0022: 1 | H0252: 1, I | H0039: 1, H0033: | H0604: 1, H0424: | H0213: 1, L0055: 1 | H0674: 1, I | H0135: 1, H0040: 1 | H0551: 1, F | H0059: 1, F | L0351: 1, L0435: 1 | H0494: 1, S0306: | S0150: 1, H0647: 1 | S0210: 1, S | L0369: 1, L0762: 1 | L0640: 1, L0371: | L0770: 1, L | L0638: 1, L0637: | L5575: 1, L | L0646: 1, L0641: | L0374: 1, L0648: 1 | L0767: 1, L | L0774: 1, L0653: | L0493: 1, L0559: | L0635: 1, L0783: | L0519: 1, L0545: | L0541: 1, L0543: | L0788: 1, L4559: | S0053: 1, L0352: | H0520: 1, H0547: 1 |
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| H0690: 1, H0682: 1, H0435: 1, H0539: 1, H0521: 1, S0404: 1, S3012: 1, S0037: 1, S3014: 1, S0028: 1, S0206: 1, L0742: 1, L0750: 1, L0779: 1, L0753: 1, L0757: 1, L0593: 1, S0276: 1, H0423: 1, H0506: 1, H0008: 1 and H0293: 1. | | | | | - | | | | • | | | | | | | | |
| | | Glu-6 to Thr-11, | His-31 to Asn-36, | Thr-68 to Ile-76, | Met-80 to Arg-89, | Glu-123 to Gln-132, | Arg-140 to Leu-147. | Glu-1 to Ile-6. | Pro-36 to Lys-44, | Ile-46 to Ser-52, | Val-82 to Gln-89, | Gly-99 to Ala-104, | Tyr-165 to Leu-171. | | | | Asp-7 to Lys-15, His-142 to Glu-156, |
| | 4155 | 4156 | | | | | | 4157 | 4158 | | | | | 4159 | 4160 | 4161 | 4162 |
| | 2 - 784 | 3 - 596 | | | | | | 123 - 608 | 94 - 651 | | | | | 11 - 793 | 3 - 431 | 3 - 539 | 3 - 734 |
| | 1980 | 1981 | | | | | | 1982 | 1983 | | | | | 1984 | 1985 | 1986 | 1987 |
| | HSPSG13R | HSPSG42R | | | | | | HSPSG50R | HSPSG89R | | | | | HSPSH39R | HSPSH41R | HSPSH49R | HSPSI65R |
| | HSPSG13 | HSPSG42 | | | | | | HSPSG50 | HSPSG89 | | | | | HSPSH39 | HSPSH41 | HSPSH49 | HSPSI65 |

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| | HOLZ4: 19, HOD22: 10, LO751: 7, LO747: 7, HO255: 6, HO441: 6, HO556: 5, SO222: 5, HO620: 4, LO655: 4, HO144: 4, LO439: 4, LO596: 4, LO601: 4, SO132: 3, HO575: 3, HO024: 3, HO617: 3, HO087: 3, HO617: 3, HO087: 3, LO662: 3, LO766: 3, LO663: 3, LO766: 3, LO663: 3, LO766: 3, LO663: 3, HO565: 3, LO743: 3, HO518: 2, HO508: 2, SO418: 2, SO444: 2, SO418: 2, HO208: 2, HO333: 2, HO706: 2, HO333: 2, HO706: 2, HO089: 2, LO471: 2, SO051: 2, TO010: 2, HO083: 2, HO628: 2, HO083: 2, SO440: 2, | S0142: 2, S0344: 2, |
| Glu-181 to Phe-190. | H0255: C H0255: C H0255: C H0255: C H0255: C H0265: C H0265: C H0265: C H0265: C H0024: C H0024: C H0087: C H0060: C H0083: C H00 | 7.74108 |
| - Glu- | 4103 | |
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| 66:2 | 57: 2, | 66: 2, | 83: 2, | 570: 2, | 48: 2, | 52: 2, | 31: 2, | 87: 2, | 24: 1, | 41: 1, | 02: 1, | 14: 1, | 41: 1, | 32: 1, | 07: 1, | 76: 1, | 00: 1, | 11: 1, | 74: 1, | 22: 1, | 4: 1, | 56: 1, | 48: 1, | 09: 1, | 31: 1, | 46: 1, | 50: 1, | 50: 1, | 73: 1, |
| 1.5565: 2. 1.5566: 2. | L0776: 2, L06 | L0659: 2, L0666: 2, | L0665: 2, H0683: 2, | H0658: 2, H0670: | S0146: 2, L07 | L0756: 2, L0752: 2, | L0755: 2, L07 | L0758: 2, L0587: 2, | L0361: 2, H0624: | Т0002: 1, Н01 | H0717: 1, S0402: 1 | H0295: 1, S01 | L0785: 1, H03 | S0212: 1, S0282: | H0722: 1, S00 | S0046: 1, S0476: 1 | H0619: 1, S0300: 1 | H0351: 1, H04 | H0392: 1, H0574: | H0492: 1, L0622: | L0623: 1, H02 | H0250: 1, H0156: | H0618: 1, T0048: | H0434: 1, H0309: | H0597: 1, H0231: | H0544: 1, H0546: | H0046: 1, H0150: | H0050: 1, S0050: | H0016: 1, H0373: |
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| H0051: 1, H0071: 1, S6028: 1, H0271: 1. | H0687: 1, S0022: 1, | 2252: 1, H0615: 1, | H0039: 1, H0033: 1, | 3604: 1, H0424: 1, | H0213: 1, L0055: 1, | 3674: 1, H0068: 1, | 0135: 1, H0040: 1, | 0551: 1, H0412: 1, | H0059: 1, H0100: 1, |)351: 1, L0435: 1, | 3494: 1, S0306: 1, | 150: 1, H0647: 1, | S0210: 1, S0002: 1, |)369: 1, L0762: 1, |)640: 1, L0371: 1, | L0770: 1, L0769: 1, |)638: 1, L0637: 1, | 575: 1, L0772: 1, | L0646: 1, L0641: 1, |)374: 1, L0648: 1, | 7767: 1, L0768: 1, | 7774: 1, L0653: 1, | .0493: 1, L0559: 1, | .0635: 1, L0783: 1, | .0519: 1, L0545: 1, | L0541: 1, L0543: 1, | .0788: 1, L4559: 1, | S0053: 1, L0352: 1, |
|--|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|-------------------|---------------------|--------------------|--------------------|---------------------|--------------------|-------------------|---------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|)H |)H |)HI |)HI |) HO |) HIC | OH | 0H) | OH | 0HI | <u> </u> | OH H | 08 | OS | <u> </u> | <u> </u> | <u> </u> | <u> </u> | | 07 | <u> </u> | <u> </u> | | <u> </u> | <u> </u> | <u></u> | | <u>3</u> | os |
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| H0520: 1, H0547: 1, | H0690: 1, H0682: 1, | H0435: 1, H0539: 1, | H0521: 1, S0404: 1, | S3012: 1, S0037: 1, | S3014: 1, S0028: 1, | S0206: 1, L0742: 1, | L0750: 1, L0779: 1, | L0753: 1, L0757: 1, | L0593: 1, S0276: 1, | H0423: 1, H0506: 1, | H0008: 1 and H0293: 1. | H0617: 14, L0665: 14, | L0657: 11, H0682: 11, | H0521: 10, S0360: 8, | H0423: 7, H0657: 5, | H0620: 5, H0687: 5, | L0664: 5, H0547: 5, | S0406: 5, S0376: 4, | H0059: 4, H0641: 4, | S0422: 4, L0648: 4, | L0768: 4, H0658: 4, | H0670: 4, H0666: 4, | H0522: 4, H0584: 3, | H0713: 3, H0716: 3, | H0341: 3, H0638: 3, | H0618: 3, H0039: 3, | H0087: 3, H0509: 3, | L0662: 3, L0775: 3, | L0659: 3, H0689: 3, |
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| H0435: 3, S0328: 3 | H0445: 3, S0434: 3, | .0581: 3, L0361: 3, | H0585: 2, H0717: 2, | F0049: 2, H0730: 2, | S0476: 2, S0278: 2, | H0550: 2, H0586: 2, | H0559: 2, H0486: 2, | H0575: 2, H0253: 2, | H0581: 2, H0622: 2, | HO606: 2, H0625: 2, | 10649: 2, L0667: 2 | L0382: 2, H0684: 2, | .0743: 2, L0751: 2, | 0599: 2, S0026: 2 | H0543: 2, S0424: 2 | H0171: 1, H0556: | S0040: 1, H0740: 1 | H0650: 1, H0254: 1 | 10255: 1, H0661: | H0663: 1, H0664: 1 | H0125: 1, S0356: 1, | S0442: 1, S0354: 1 | S0358: 1, S0408: 1 | H0722: 1, S0132: 1 | S6026: 1, H0587: 1 | ,0623: 1, H0250: 1 | J0021: 1, H0599: 1 | T0082: 1, H0318: 1, | H0327: 1, H0530: |
| | <u> </u> | <u> </u> | <u></u> | <u>[</u> . | <u>S</u> | <u> </u> | 王 | 프 | <u> </u> | | 正 | 7 | 7 | 7 | <u> </u> | <u> </u> | Š | <u> </u> | <u> </u> | <u>H</u> | <u> </u> | <u>S</u> | Š | <u> </u> | <u> </u> | | <u></u> | <u>[1</u> | <u> </u> |
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| 0: 1, L0471: 1, | 2: 1, H0023: 1, | 4: 1, H0014: 1, | 8: 1, H0071: 1, | 7: 1, H0275: 1, | 4: 1, H0510: 1, | 7: 1, H0271: 1, | H0286: 1, H0615: 1, | 8: 1, H0553: 1, | 1: 1, H0124: 1, | 6: 1, H0477: 1, | 0: 1, H0561: 1, |): 1, S0438: 1, | 9: 1, L0371: 1, | 9: 1, L5575: 1, | l: 1, L0772: 1, | 5: 1, L0645: 1, | 5: 1, L0774: 1, | 5: 1, L0651: 1, | 3: 1, L0806: 1, | 3: 1, L0559: 1, | 3: 1, L0384: 1, | 3: 1, H0698: 1, | 5: 1, H0519: 1, | 3: 1, H0660: 1, |): 1, S0454: 1, | 5: 1, S0146: 1, | 5: 1, H0727: 1, | H0732: 1, S0027: 1, | S0031: 1, L0596: 1, |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------|---------------------|
| H015 | H001. | H002 | S0388 | H010 | H035 | H0247 | H028 | 1890H | H018 | H0316 | H0100 | 80450 | H0529 | 59407 | 19201 | 1.0646 | 99/07 | 1,0375 | L0523 | L0658 | L0783 | [L0793 | H0726 | H0683 | 80330 | H0690H | H0576 | H0732 | S0031 |
| | | | | | | | | | | | - | | | | | | | | | _ | | | | | | | | | |
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| H0542: 1, H0422: 1, S0456: 1 and H0352: 1 | , | | | H0683: 242, S0358: 3, | L0745: 3, H0656: 2, | H0484: 2, S0354: 2, | H0370: 2, H0427: 2, | T0010: 2, H0039: 2, | H0521: 2, S0001: 1, | H0619: 1, H0592: 1, | H0042: 1, H0618: 1, | H0327: 1, H0024: 1, | H0266: 1, H0288: 1, | H0135: 1, H0551: 1, | H0623: 1, H0130: 1, | S0210: 1, L0774: 1, | L0654: 1, L0438: 1, | H0593: 1, H0539: 1, | L0439: 1, H0707: 1, | H0422: 1 and H0293: 1 | | | | | | |
| | Pro-6 to Gly-13, Pro-23 to Lys-32, | Lys-94 to Ala-112. | Glu-17 to Asp-32. | | | | | | | | | | | | | | | | | | | | Ala-1 to Lys-9, | Val-11 to Trp-17. | | Ser-1 to Thr-8, |
| | 4165 | , | 4166 | 4167 | | | | | | | | | | | | | | | | | 4168 | 4169 | 4170 | | 4171 | 4172 |
| | 1 - 339 | | 1 - 327 | 2 - 442 | | | | | | | | - | | | | | | | | | 2 - 406 | 244 - 438 | 2 - 61 | | 46 - 210 | 36 - 302 |
| | 1990 | | 1991 | 1992 | | | | | | | | | | | | | | | | | 1993 | 1994 | 1995 | | 1996 | 1997 |
| | HSPSQ22R | | HSPSQ57R | HSPSY67R | | | | | | | | | | | | | | | | | HSPSZ69R | HSPTA57R | HSPTN57R | | HSSDM17R | HSWBF04R |
| | HSPSQ22 | | HSPSQ57 | HSPSY67 | | | | | | | | | | | | | | | | | 69ZSdSH | HSPTA57 | HSPTN57 | | HSSDM17 | HSWBF04 |

| | | L0803: 10, L0794: 4, | L0779: 4, L0789: 2, | H0648: 2, S0442: 1, | S0045: 1, S0036: 1, | L0520: 1, L0763: 1, | L0769: 1, L0800: 1, | L0644: 1, L0764: 1, | L0773: 1, L0767: 1, | L0804: 1, L0774: 1, | L0805: 1, L0517: 1, | H0659: 1, L0777: 1 and | L0758: 1. | H0615: 2 and S0134: 1. | | | | | | | | L0439: 15, H0052: 11, | S0007: 9, L0438: 6, | L0731: 6, L0779: 5, | L0754: 4, H0550: 3, | L0769: 3, S0126: 3, |
|--|--|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|-----------|------------------------|-------------------|-------------------|-------------------|-----------|------------------|-------------------|-------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|
| Glu-17 to Ala-32, Arg-39 to Trp-47. | Met-9 to Arg-14, Leu-23 to Lys-29, Lys-50 to Asn-56. | Ser-7 to Gly-12, | Pro-23 to Pro-40, | Ala-49 to Val-54. | | | | | | | | | | Ser-4 to Thr-10, | Leu-42 to Pro-51. | Asp-55 to Val-63, | Cys-80 to Arg-92. | | Pro-8 to Trp-14, | Arg-20 to Ser-27, | Glu-52 to Glu-60. | Pro-26 to Gly-39, | Pro-68 to Arg-75. | | | |
| | 4173 | 4174 | | | • | | | | | | | | | 4175 | | 4176 | | 4177 | 4178 | | | 4179 | | | | |
| | 188 - 364 | 84 - 308 | | | | | | | | | | | | 136 - 297 | | 131 - 406 | | 107 - 295 | 169 - 423 | | | 94 - 366 | | | | |
| | 1998 | 1999 | | | | | | | | | | | | 2000 | | 2001 | | 2002 | 2003 | | | 2004 | | | | |
| | HSWBP42R | HSXEM65R | | | | | | | | | | | | HTGAR42R | | HTLCU84R | | HTSHG06R | HTTDP76R | | | HUFCQ37R | | | | |
| | HSWBP42 | HSXEM65 | | | | | | | | | | | | HTGAR42 | | HTLCU84 | | HTSHG06 | HTTDP76 | | | HUFCQ37 | | | | |

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| L0743: 3, H0194: 2, | H0687: 2, H0623: 2, | L0768: 2, L0776: 2, | L0659: 2, L0666: 2, | L0663: 2, H0689: 2, | S0330: 2, L0748: 2, | L0786: 2, L0777: 2, | L0752: 2, L0758: 2, | L0608: 2, H0352: 2, | H0662: 1, S0356: 1, | S0354: 1, S0444: 1, | S0045: 1, S0476: 1, | H0441: 1, H0431: 1, | H0333: 1, H0642: 1, | H0575: 1, H0590: 1, | F0048: 1, H0150: 1, | H0024: 1, S0050: 1, | S0388: 1, H0252: 1, | H0039: 1, H0135: 1, | H0038: 1, H0264: 1, | H0494: 1, L0770: 1, | L0372: 1, L0646: 1, | L0521: 1, L0794: 1, | L0803: 1, L0775: 1, | L0653: 1, L0657: 1, | L0809: 1, L0792: 1, | | L0352: 1, H0519: 1, | H0593: 1, H0658: 1, | H0672: 1, H0539: 1, |
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| S0406: 1, L0751: 1, | L0749: 1, L0756: 1, | L0753: 1 and H0506: 1. | | | | | | | | | | | | - | | | | | | | | | | | | | |
| | | • | Arg-8 to Arg-28. | Arg-11 to Arg-18, | Ser-42 to Arg-52, | Met-62 to Pro-73, | Pro-102 to Gly-115. | | | Arg-2 to Gly-12, | Arg-28 to Gly-41, | Gly-48 to Val-68, | Lys-94 to Arg-118. | Met-4 to Thr-22, | Asp-45 to Gly-50, | Gly-65 to Asp-70, | Lys-96 to Asp-104, | Ile-121 to Leu-126, | Met-133 to Glu-144, | Ala-149 to Asn-156. | Ile-36 to Glu-41, | Glu-55 to Lys-63, | Lys-68 to Gln-81, | Pro-84 to Lys-90, | Pro-108 to Ser-119. | Pro-22 to Pro-28, | Glu-109 to Arg-118. |
| | | | 4180 | 4181 | | | | 4182 | 4183 | 4184 | | | | 4185 | | | | | | | 4186 | | | | | 4187 | |
| | | | 2 - 349 | 19 - 390 | | | | 187 - 288 | 351 - 620 | 1 - 462 | | | | 94 - 618 | | | | | | | 208 - 717 | | | | | 2 - 373 | |
| | | | 2005 | 2006 | | | | 2007 | 2008 | 2009 | | | | 2010 | | | | | | | 2011 | | | | | 2012 | |
| | | , | HULAP70R | HUSGA11R | | | | HUSIL88R | HUUCH08 HUUCH08R | HUVFA39 HUVFA39R | | | | HVCAA31 HVCAA31R | | | | | | | HVCAA37 HVCAA37R | | | | | HVCAA68 HVCAA68R | |
| | | | HULAP70 | HUSGA11 | | | | HUSIL88 | нопснов | HUVFA39 | | | | HVCAA31 | | | | | | | HVCAA37 | | | | | HVCAA68 | |

| | H0666: 696, H0660: | L0664: 4, H0549: 3, | H0620: 3, H0181: 3, | H0593: 3, H0684: 3, | H0484: 2, H0619: 2, | H0051: 2, H0606: 2, | H0670: 2, L0748: 2, | L0439: 2, S0040: 1, | H0483: 1, H0255: 1, | H0662: 1, S0007: 1, | H0486: 1, H0052: 1, | H0597: 1, H0046: 1, | H0009: 1, H0012: 1, | H0059: 1, T0041: 1, | H0517: 1, L0770: 1, | L0764: 1, L0803: 1, | L0783: 1, L0809: 1, | H0435: 1, H0658: 1, | H0539: 1, H0521: 1, | H0696: 1 and S0434: 1. | | | | | | L0769: 7, L0747: 7, | L0777: 7, L0752: 7, | L0665: 6, L0770: 5, |
|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|--------------------|-------------------|-------------------|-------------------|---------|---------------------|---------------------|---------------------|
| | | | | | | | | | | | | | | | | - | ; | : | | | Arg-1 to Gln-18, | Asp-52 to Leu-57, | Asp-67 to Lys-74, | Asp-85 to Ala-92. | | | | |
| 4188 | 4189 | | | | | | | | | | | | | | | | | | | | 4190 | | | | 4191 | 4192 | | |
| 1 - 462 | 2 - 649 | | | | | | | | | | | | | | | | | | | | 353 - 664 | | | | 3 - 758 | 3 - 224 | | |
| - | 2014 | | | | | | | | | | | | | | | | | | | | 2015 | | | | 2016 | 2017 | | • |
| HVCAA94 HVCAA94R | HVCAB02 HVCAB02R | | | | | | | | | | | | | | | | | | | | HVCAB03 HVCAB03R | | | _ | | HVCAB44R | | |
| HVCAA94 | HVCAB02 | | | | | | | | | | | | | | | | | | | | HVCAB03 | | | | HVCAB18 | HVCAB44 | | |

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|--------------------|--------------------|---------------------|--------------------|--------------|--------------|---------------------|--|--------------|--------------|---------------------|---------------------|--------------|--------------|--------------|-------------------|--------------------|--------------------|--------------------|---------------------|---------------|--------------|---------------------|--------------------|--------------|--------------------|-------------|------------------|------------------|--------------------|
| | <u> </u> | | | | | | <u>. </u> | | | | | | | | | • | | | | | | | | | | | | | |
|): 5, | 5: 4, | .4, | 5:3, | 5.3, | .3, | . 3, |): 3, | . 2, | 2: 2, | 1: 2, | 5: 2, | 2, 2, | . 2, | .2, | 3: 2, | 3: 1, | 4: 1, | 2: 1, | : 1, | 5: 1, | ÷1, − | 6: 1, | 9: 1, | 9: 1, | 5: 1, | 4: 1, | 0: 1, | 4: 1, | 2:.1, |
| L0766: 5, L0779: 5 | 0771: 4, L0666: 4, | .0439: 4, L0751: 4, | H0052: 3, H0135: 3 | 62: 3, L0775 | 06: 3, L0809 | L0647: 3, S0404: 3, | 43: 3, L0749 | 31: 3, S036C | 83: 2, H041: | .0761: 2, L0764: 2, | L0662: 2, L0653: 2, | 83: 2, L0532 | 64: 2, L0748 | 50: 2, L0758 | 0759: 2, H0543: 2 | H0265: 1, S0218: 1 | 10657: 1, H0254: 1 | H0661: 1, H0402: 1 | S0354: 1, S0046: 1, | 519: 1, S6026 | 17: 1, H0409 | H0587: 1, H0486: 1, | H0013: 1, H0069: 1 | .56: 1, H059 | L0022: 1, H0575: 1 | 97: 1, H054 | H0546: 1, H0150: | H0057: 1, H0014: | S0003: 1, H0252: 1 |
| 1.07 | 1.07 | <u> 1.04</u> |)OH | 1.07 | T08 | <u>1.06</u> | L07 | <u>1.07</u> | HOC | L07 | 106 | 107 | 907 | 107 | 1.07 | H02 | 90H | 90H | 803 | 90H | 107 | H05 | HOOH | H01 | <u> </u> | H05 | HOS | H00 | 00S |
| | • | | | : | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1, 1, 1, 1, 1, 1, 1, | | | | | |
| H0615: 1, H0030: 1, H0644: 1, H0617: 1, S0364: 1, H0617: 1, H0063: 1, H0646: 1, S0426: 1, L0369: 1, L0772: 1, L0773: 1, L0772: 1, L0773: 1, L0767: 1, L0774: 1, L0767: 1, L0656: 1, H0650: 1, H0669: 1, H0666: 1, S0152: 1, H0666: 1, L0744: 1, L0786: 1, L0744: 1, L0786: 1, L0744: 1, L0786: 1, L0744: 1, L0786: 1, L0755: 1, | | | | | |
| | | | Lys-6 to Thr-11, Gly-22 to Phe-30, Leu-40 to Gly-53, Arg-56 to Lys-64, Lys-93 to Leu-101, Met-176 to Leu-181 | Arg-7 to Asp-13. | |
| | 4193 | 4194 | 4195 | 4196 | 4197 |
| | 4 - 612 | 1 - 357 | 83 - 739 | 319 - 417 | 1 - 369 |
| | 2018 | 2019 | 2020 | 2021 | 2022 |
| , | | HVCAB57R | HVCAB88R | HVCAC42R | |
| | HVCAB52 | HVCAB57 | HVCAB88 | HVCAC42 | HVCAD52 |

| | | S0358: 7, H0659: 7, H0542: 7, H0543: 6, L0666: 5, L0747: 5, S0418: 4, H0494: 4, L0657: 4, L0517: 4, S0374: 4, L0731: 4, L0596: 4, H0341: 3, H0385: 3, S0346: 3, L0659: 3, L0663: 3, L0664: 3, L0759: 3, L0754: 3, L0755: 3, L0445: 3, L0422: 3, L0445: 3, H0445: 3, H0445: 2, S0360: 2, S0376: 2, S0360: 2, S0376: 2, H0486: 2, H0250: 2, H0251: 2, H0251: 2, L0551: 2, L0561: 2, H0581: 2, H0251: 2, L0561: 2, H0581: 2, H0251: 2, L0562: 2, H0581: 2, H0251: 2, L0663: 2, H0581: 2, H0251: 2, L0563: 2, H0581: 2, H0251: 2, L0563: 2, H0581: 2, H0251: 2, L0563: 2, L0663: 2, H0581: 2, H0251: 2, L0663: 2, L0663: 2, H0581: 2, H0251: 2, L0663: 2, L0663: 2, H0581: 2, H0251: 2, L0663: 2, L0663: 2, L0663: 2, L0663: 2, L0663: 2, H0581: 2, H0251: 2, L0663: |
|---|--|--|
| Tyr-44 to Asp-49, Pro-132 to Leu-139, Cys-168 to His-174. | Pro-49 to Val-58, Gln-60 to Gln-78, Arg-85 to His-99, Phe-122 to Asp-128, Arg-157 to Arg-163, Leu-178 to Thr-193. | |
| 4198 | 4199 | 4200 |
| 49 - 663 | 3 - 605 | 2 - 493 |
| 2023 | 2024 | 2025 |
| HVCAE01 HVCAE01R | HVCAEISR | HVCAE22R |
| HVCAE01 | HVCAEIS | HVCAE22 |

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| H0545: 2, H0083: 2, | H0510: 2, H0412: 2, | S0422: 2, L0769: 2, | L0637: 2, L0646: 2, | L0651: 2, H0144: 2, | H0519: 2, H0660: 2, | S0380: 2, L0740: 2, | L0608: 2, L0603: 2, | H0668: 2, H0667: 2, | S0412: 2, H0265: 1, | T0002: 1, S0402: 1, | S6024: 1, H0657: 1, | H0656: 1, H0663: 1, | H0638: 1, H0580: 1, | H0208: 1, S0046: 1, | L0717: 1, S0278: 1, | H0370: 1, H0586: 1, | H0497: 1, H0574: 1, | T0109: 1, H0156: 1, | H0575: 1, H0590: 1, | H0318: 1, S0049: 1, | H0544: 1, H0572: 1, | H0123: 1, L0471: 1, | H0024: 1, H0373: 1, | L0163: 1, S0388: 1, | H0355: 1, H0375: 1, | S6028: 1, H0267: 1, | H0687: 1, S0312: 1, | S0250: 1, S0003: 1, | H0316: 1, H0598: 1, |
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| H0163: 1, H0551: 1, H0623: 1, H0059: 1, T0042: 1, H0625: 1, H0561: 1, H0633: 1, H0646: 1, S0426: 1, L0598: 1, H0529: 1, L0521: 1, L0662: 1, L0766: 1, L0775: 1, L0766: 1, L0775: 1, L0783: 1, L055: 1, L0653: 1, L0792: 1, L0653: 1, L0792: 1, H059: 1, L0792: 1, H0669: 1, H0547: 1, H0669: 1, H0547: 1, H0668: 1, S0328: 1, H0668: 1, S0328: 1, H0518: 1, H0522: 1, H0518: 1, L0756: 1, S0027: 1, S0037: 1, S0031: 1, L0588: 1, L0595: 1, S0026: 1 and | | |
| | Asn-20 to Gln-27. | Arg-92 to Arg-101, Lys-134 to Asn-140, Ser-149 to Thr-159, Gly-166 to Ile-175. |
| · · | 4201 | 4202 |
| | 75 - 572 | 3 - 551 |
| | 2026 | 2027 |
| | HVCAE56R | 1 1 |
| | HVCAE56 | HVCAG56 |

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| | H0620: 16, L0747: 12, | H0599: 11, L0758: 9, | S0358: 8, L0751: 7, | L0754: 7, L0596: 7, | H0556: 6, H0393: 5, | H0706: 5, H0052: 5, | H0616: 5, H0529: 5, | L0774: 5, L0776: 5, | H0483: 4, S0442: 4, | H0253: 4, H0012: 4, | H0083: 4, S0150: 4, | L0662: 4, H0670: 4, | H0521: 4, L0748: 4, | L0581: 4, H0543: 4, | H0341: 3, S0376: 3, | H0580: 3, S0007: 3, | S0280: 3, H0036: 3, | H0618: 3, H0581: 3, | H0309: 3, H0510: 3, | H0428: 3, H0040: 3, | H0087: 3, L0764: 3, | L0775: 3, L0655: 3, | L0666: 3, L0663: 3, | L0664: 3, H0547: 3, | L0749: 3, L0750: 3, | L0595: 3, H0657: 2, | H0656: 2, S0116: 2, | H0638: 2, S0356: 2, | S0360: 2, S0046: 2, |
| Arg-6 to Pro-21. | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | |
| 4203 | 4204 | | | | | | | | | | | | | | | | | | | | | | | | | | | | ;• |
| 150 - 509 | 3 - 689 | | • | | | | | | | | | | | • | | | | | | | | | | | | | | | |
| 2028 | 2029 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HVCAG86 HVCAG86R | HVCAH03R | | | | | | | | | | | • | | | | | | | | | | | | | | | | | |
| HVCAG86 | HVCAH03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| H0411: 2, H0550: 2, | S6014: 2, H0370: 2, | H0574: 2, L0622: 2, | L0623: 2, H0042: 2, | S0182: 2, H0318: 2, | H0085: 2, H0373: 2, | H0275: 2, H0188: 2, | H0030: 2, H0169: 2, | H0124: 2, H0135: 2, | H0038: 2, H0100: 2, | T0042: 2, H0494: 2, | H0625: 2, H0509: 2, | H0132: 2, H0130: 2, | H0538: 2, L0800: 2, | L0768: 2, L0381: 2, | L0784: 2, L0378: 2, | L0653: 2, L0659: 2, | L0809: 2, H0651: 2, | H0696: 2, H0134: 2, | S3014: 2, S0027: 2, | L0743: 2, L0744: 2, | L0740: 2, L0731: 2, | S0031: 2, L0604: 2, | H0423: 2, H0352: 2, | H0265: 1, T0002: 1, | S0134: 1, H0583: 1, | H0484: 1, H0661: 1, | L0005: 1, S0408: 1, | S0045: 1, H0619: 1, | H0645: 1, H0351: 1, |
| | <u> </u> | | | <u> </u> | | | <u> </u> | | <u>, 114</u> | | <u> </u> | <u>+-1</u> | <u> </u> | _=== | . E-1 . | | | | <u> </u> | | | <u> </u> | <u></u> | , 14 | <u> </u> | | | <u> </u> | |
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| | the section of the se | | ······································ | | | - | | | | | | • | | | | | | | | | | | | | | | | | |
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| H0369: 1, H0549: | F0104: 1, H0592: | 10587: 1, H0333: | 10643: 1, H0331: | H0632: 1, H0270: 1, | 10101: 1, H0013: | 10575: 1, S0010: | 10196: 1, H0263: | 70115: 1, H0597: | 10530: 1, H0545: | 10009: 1, H0571: | 10081: 1, H0050: | 10024: 1, H0095: | .0163: 1, H0051: | 0388: 1, H0107: | 10375: 1, H0266: | .0334: 1, H0288: | H0286: 1, H0252: 1, | 10039: 1, H0424: | 10213: 1, H0181: | 10673: 1, H0674: | .0364: 1, H0708: | .0366: 1, S0036: | 10591: 1, H0551: | 10488: 1, H0412: | H0413: 1, H0623: 1, | .0041: 1, L0475: | H0560: 1, H0561: 1, | 0306: 1, H0714: | H0641: 1, H0633: 1 |
| - | Ţ | <u> </u> | <u>H</u> | <u>, 11</u> | 111 | <u>j. 14</u> | <u>144</u> | E | <u> </u> | <u>- 1-1-1</u> | <u>. i-L-i</u> | <u> </u> | <u> </u> | S | <u>;44</u> | S | <u> </u> | <u>ىلىن</u> | <u>i Li</u> | | S | S | <u>زیلز</u> | <u>;4</u> | <u>بلۇ</u> | L | <u>i-Li</u> | S | <u>-</u> |
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| H0647: 1, S0144: 1, | S0142: 1, S0344: 1, | H0695: 1, L0369: 1, | L0762: 1, L0763: 1, | • | L0769: 1, L0638: 1, | L0373: 1, L0646: 1, | L0773: 1, L0648: 1, | L0766: 1, L0386: 1, | L0375: 1, L0806: 1, | L0382: 1, L0665: 1, | H0144: 1, S0374: 1, | _ | H0520: 1, H0593: 1, | H0689: 1, H0690: 1, | H0658: 1, H0666: 1, | H0648: 1, H0672: 1, | H0539: 1, H0522: 1, | H0555: 1, S0028: 1, | S0032: 1, L0752: 1, | L0755: 1, H0445: 1, | S0434: 1, L0599: 1, | S0011: 1, H0667: 1, | H0136: 1, S0192: 1, | H0542: 1, S0424: 1, | H0506: 1 and H0008: 1. | | , |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | 2030 | 2031 |
| | | | | | | | | | - | | | | | | | | | | | | | | | | | HVCAH17 HVCAH17R | HVCAH56R |
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| L0748: 28, L0754: 27, | L0740: 15, H0056: 13, | L0750: 13, S0007: 12, | L0757: 12, S0126: 11, | S0222: 10, L0731: 10, | S0360: 9, H0144: 9, | S0358: 8, H0009: 8, | L0005: 7, S0010: 7, | H0266: 7, L0742: 7, | L0752: 7, H0547: 6, | S0408: 5, S0046: 5, | L0471: 5, S0003: 5, | S0028: 5, L0758: 5, | L0362: 5, S0026: 5, | H0294: 4, H0341: 4, | H0638: 4, S0045: 4, | H0327: 4, H0039: 4, | H0031: 4, H0413: 4, | S0210: 4, L0769: 4, | L0662: 4, L0775: 4, | L0776: 4, L0809: 4, | H0689: 4, S3014: 4, | S0206: 4, L0747: 4, | H0445: 4, L0608: 4, | H0661: 3,.S0376: 3, | S0278: 3, H0369: 3, | H0441: 3, H0575: 3, | S0049: 3, S0388: 3, | S0036: 3, H0616: 3, | H0100: 3, H0494: 3, |
| Pro-6 to Arg-13, | Met-34 to Asp-41, | Lys-65 to Thr-74. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4207 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 67 - 453 | | | <u> </u> | • | | | | | | | | | | | | | | | | | | | ٠ | | | | | | |
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| HVCAI08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 20: 3, | 74: 3, | 59: 3, | 27: 3, | 92: 3, | 70: 2, | 16: 2, | 05: 2, | 33: 2, | 86: 2, | 09: 2, | 46: 2, | 18: 2, | 51: 2, | 50: 2, | 69: 2, | 24: 2, | 15: 2, | 44: 2, | 90: 2, | 59: 2, | 42: 2, | 72: 2, | 68: 2, | 82: 2, | 28: 2, | 30: 2, | 34: 2, | 12: 2, | 55: 2, |
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| S0440: 3, L0520: 3, | L0764: 3, S0374: 3, | H0682: 3, H0659: 3, | H0672: 3, S00 | L0439: 3, S0192: 3, | H0624: 2, H0170: 2, | T0002: 2, H0716: 2, | S0282: 2, H0305: 2, | S0420: 2, L0103: 2, | H0592: 2, H05 | T0039: 2, T0109: 2, | H0013: 2, S03 | T0048: 2, H0318: 2, | S0474: 2, H02 | H0597: 2, H0150: 2, | H0178: 2, H0569: 2, | H0081: 2, H0024: 2, | S0051: 2, H0615: 2, | H0428: 2, H0644: 2, | H0708: 2, H0090: 2, | H0412: 2, H0059: 2, | H0633: 2, S0142: 2, | S0422: 2, L0772: 2, | L0646: 2, L0768: 2, | L0806: 2, L0782: 2, | H0684: 2, S0328: 2, | S0378: 2, S0380: 2, | H0522: 2, H0134: 2, | S0406: 2, S3012: 2, | L0751: 2, L0755: 2, |
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| S0031: 2, L0605: 2, | L0592: 2, L0601: 2, | L0600: 2, L0615: 1, | H0265: 1, S0040: 1, | S0342: 1, T0049: 1, | S0134: 1, H0650: 1, | H0657: 1, S0116: 1, | H0663: 1, H0177: 1, | H0125: 1, H0192: 1, | 50348: 1, 50356: 1, | S0442: 1, S0354: 1, | S0444: 1, S0410: 1, | F0008: 1, H0580: 1, | H0208: 1, S0132: 1, | S6026: 1, S0300: 1, | H0549: 1, H0431: 1, | H0370: 1, H0438: 1, | H0574: 1, H0250: 1, | H0427: 1, H0097: 1, | F0082: 1, H0421: 1, | L2250: 1, H0309: 1, | F0110: 1, H0544: 1, | H0086: 1, H0563: 1, | H0014: 1, H0051: 1, | H0021: 1, H0083: 1, | H0594: 1, S6028: 1, | H0687: 1, H0290: 1, | H0286: 1, S0214: 1, | H0622: 1, T0023: 1, | H0111: 1, H0628: 1, |
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| H0617: 1, L0055: 1 | H0163: 1, H0591: 1 H0163: 1, H0591: 1 | H0038: 1, S0112: 1, | 564: 1, T0041: 1 | 042: 1, S0014: 1 | 438: 1, H0509: 1 | H0641: 1, H0529: 1 | J0762: 1, L4747: 1 | .0372: 1, L0553: 1 | 771: 1, L0773: 1 | L0521: 1, L0767: 1 | 766: 1, L5569: 1 | 574: 1, L0381: 1 | L0650: 1, L0774: 1 | .0376: 1, L0653: 1 | 0527: 1, L0657: 1 | L0518: 1, L0783: 1 | 545: 1, L0532: 1 | .0666: 1, L0663: 1 | S0216: 1, H0520: 1 | H0593: 1, H0711: 1 | 3690: 1, H0670: 1 | 3660: 1, H0666: 1 | H0539: 1, S0152: 1, | S0332: 1, H0521: 1 | 704: 1, S0044: 1 | S0146: 1, S0404: 1, | J0749: 1, S0260: 1 | H0444: 1, S0434: 1 |
|)H | H | H | 3 | 71 | SO | Ĭ | 3 | 3 | 3 | <u>3</u> | 3 | <u>21</u> | 3 | <u>3</u> | 3 | <u>3</u> | 2 | 2 | S S | H | Ħ | Ħ | Ħ | os | H | os S | <u>3</u> | H |
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| L0596: 1, L0588: 1, L0599: 1, L0366: 1, S0011: 1, H0668: 1, H0216: 1, S0242: 1, S0196: 1, H0542: 1, H0543: 1, L0697: 1, L0698: 1, S0398: 1, S0424: 1, S3020: 1 and S0460: 1. | | | S0408: 5, L0809: 5, | L0800: 4, L0804: 4, | H0647: 3, L0803: 3, | L0775: 3, L0805: 3, | S0126: 3, L0751: 3, | S0360: 2, S0278: 2, | H0409: 2, H0424: 2, | H0617: 2, H0494: 2, | L0783: 2, H0670: 2, | L0747: 2, L0777: 2, | L0731: 2, L0601: 2, | H0556: 1, H0295: 1, | S0116: 1, H0341: 1, | S0442: 1, S0358: 1, | S0376: 1, H0370: 1, | H0042: 1, H0575: 1, | S0049: 1, H0150: 1, | H0163: 1, S0294: 1, | S0438: 1, H0633: 1, |
| | Asn-1 to Lys-6. | | | | | | | | | | | | | | | | | | | | |
| | 4208 | 4209 | 4210 | | | | | | | | | | | | | | • | | • | | |
| · | 108 - 365 | 2 - 508 | 1 - 537 | | | | | | | | | | | | | | | | | | |
| | 2033 | 2034 | 2035 | | 4 | | | | | | | | | | | | | | | | |
| | HVCAI24R | HVCAI79R | HVCAJ27R | | | | | | | | | | | | | | | | | | |
| · | HVCAI24 | HVCAI79 | HVCAJ27 | | | | | | | | | | | | | | | | | | |

| H0529: 1, L0769: 1, L0374: 1, L0764: 1, L0560: 1, L0774: 1, L0376: 1, L0629: 1, L0659: 1, L0657: 1, L0669: 1, L0791: 1, H0666: 1, H0682: 1, H0666: 1, S0328: 1, H0539: 1, H0555: 1, H0436: 1, S3012: 1, L0779: 1, L0758: 1, L0757: 1, L0758: 1, H0423: 1. | | | | H0009: 3, H0135: 3, H0494: 3, H0265: 2, H0341: 2, H0484: 2, S0046: 2, S0222: 2, H0266: 2, S0144: 2, H0658: 2, L0742: 2, H0542: 2, H0423: 2, H0171: 1, T0002: 1, |
|---|-------------------------------------|---|-----------------|--|
| <u> </u> | Lys-61 to Gln-73, Gln-81 to Ser-97. | Arg-14 to Gly-41, Arg-47 to Glu-53, Gln-56 to Lys-70. | Glu-1 to Lys-9. | THOTHE |
| · | 4211 | 4212 | 4213 | 4215 |
| | 1 - 477 | 1 - 210 | 3 - 467 | 1 - 516 |
| | 2036 | 2037 | 2038 | 2040 |
| · | HVCAJ81R | HVCAJ95R | | HVCAU17 HVCAU17R |
| | HVCAJ81 | HVCAJ95 | HVCAK02 | HVCAU06 |

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| H0685: 1. S0040: 1. | H0295: 1, S0420: 1, | S0356: 1, S0360: 1, | H0392: 1, H0586: 1, | T0109: 1, H0427: 1, | H0599: 1, H0618: 1, | H0318: 1, H0597: 1, | H0544: 1, H0012: 1, | H0024: 1, H0014: 1, | S0022: 1, H0428: 1, | H0535: 1, H0068: 1, | H0090: 1, H0040: 1, | H0063: 1, H0264: 1, | H0413: 1, T0042: 1, | H0560: 1, H0633: 1, | S0142: 1, S0422: 1, | H0529: 1, H0519: 1, | S0126: 1, H0684: 1, | H0666: 1, H0672: 1, | H0134: 1, H0214: 1, | H0631: 1, S0027: 1, | S0028: 1, L0753: 1, | L0757: 1, L0599: 1, | L0608: 1. L0594: 1. | S0026: 1, H0667: 1, | H0136: 1, S0276: 1 and | H0543: 1. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Pro-56 to Thr-65. | | Val-105 to Ile-113, |
| | | | | | | - | | | | | | | | | | | | | | | | | | | | | 4216 | 4217 | 4218 |
| | | | | | • | | | | • | - | | | | | - | | | | | | | | | | | | 10 - 306 | 3 - 407 | 28 - 480 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 2041 | | 2043 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | HVCA063 HVCA063R | HVCAP89R | HVCAQ53R |
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| | | , | | L0777: 12, H0341: 6, | S0440: 6, S0126: 6, | S0358: 5, H0250: 5, | H0428: 5, H0031: 5, | H0090: 5, L0747: 5, | L0731: 5, H0542: 5, | S0422: 4, H0547: 4, | L0748: 4, L0749: 4, | L0759: 4, H0624: 3, | H0580: 3, H0486: 3, | S0003: 3, S0214: 3, | H0494: 3, L0770: 3, | L0764: 3, L0758: 3, | L0599: 3, S0026: 3, | H0543: 3, H0170: 2, | H0657: 2, H0656: 2, | S0420: 2, S0442: 2, | S0444: 2, S0010: 2, | H0318: 2, H0581: 2, | H0046: 2, H0014: 2, | H0083: 2, L0483: 2, | H0040: 2, H0551: 2, | L0769: 2, L0773: 2, | L0766: 2, L0774: 2, | L0659: 2, H0144: 2, |
| Asp-128 to Phe-137, | Arg-143 to Arg-131. Asp-15 to Thr-23. | | | | | | | | | | | | | <u> </u> | | | | | | | | • | | | | | | |
| | 4219 | 4220 | 4221 | 4222 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 193 - 402 | 3 - 455 | 2 - 715 | 1 - 687 | | | | · | | | | | • | | | | | | | | | | | | | | | |
| | 2044 | | | 2047 | | | | | | | | | | | | | | | | | | | | | | | | |
| | HVCAO84 HVCAO84R | HVCAR87 HVCAR87R | HVCAS08R | HVCAS52R | | | | | | | | | | | | | | | | | | | | | | | | |
| | HVCA084 | HVCAR87 | HVCAS08 | HVCAS52 | | | | | | | | | | | | | | | | | | | | | | | | |

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| L0565: 2, H0659: 2, | H0666: 2, H0648: 2, | S0328: 2, H0525: 2, | H0696: 2, H0134: 2, | S0406: 2, L0756: 2, | 52: 2, L0757: 2, | S0436: 2, L0595: 2, | 84: 2, H0506: 2, | 71: 1, S0040: 1, | 49: 1, H0661: 1, | H0638: 1, S0418: 1, | 54: 1, S0360: 1, | 10: 1, S0007: 1, | 00: 1, S0278: 1, | 14: 1, H0431: 1, | 87: 1, H0333: 1, | H0574: 1, H0270: 1, | [0040: 1, L0586: 1, | H0635: 1, H0156: 1, | [0082: 1, H0706: 1, | S0346: 1, H0421: 1, | 52: 1, H0597: 1, | H0545: 1, H0242: 1, | C0471: 1, H0373: 1, | S0051: 1, H0375: 1, | H0594: 1, H0687: 1, | H0288: 1, H0328: 1, | 53: 1, L0143: 1, | H0032: 1, H0598: 1, | H0634: 1, H0616: 1, |
| 105 | 90H | S03. | 90H | S04 | 101 | S04. | 303 203 | H01 | <u>T00</u> | 90H | S03; | S04] |)203(| [09S] | H05 | (SOH) | T00 | 90H | T001 | 203 ₇ | 00H | H05 | 104 | 200 | H05 | H02 | H05 | | H06 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| H0413: 1, H0100: 1, | T0042: 1, H0560: 1, | H0625: 1, H0561: 1, | S0150: 1, H0633: 1, | H0652: 1, L0763: 1, | L0371: 1, L0638: 1, | L0667: 1, L0648: 1, | L0521: 1, L0662: 1, | L0649: 1, L0803: 1, | L0776: 1, L0783: 1, | L0383: 1, L0647: 1, | L0664: 1, L0665: 1, | H0520: 1, H0689: 1, | H0414: 1, H0658: 1, | H0670: 1, H0660: 1, | H0710: 1, S0152: 1, | S0332: 1, S0454: 1, | H0522: 1, H0704: 1, | H0214: 1, S3012: 1, | S3014: 1, S0027: 1, | S0028: 1, S0206: 1, | L0740: 1, L0750: 1, | S0434: 1, L0581: 1, | H0653: 1, H0667: 1, | S0242: 1, S0194: 1, | H0422: 1 and S0424: | L0748: 6, L0439: 6, | L0731: 6, H0663: 4, | S0354: 4, H0038: 3, | S0150: 3, L0666: 3, |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 58: 3, | 97: 2, | 112: 2, | 10: 2, | 26: 2, | 561: 1, | 20: 1, | 08: 1, | 131: 1, | 140: 1, | 13: 1, | 90: 1, | 52: 1, | 173: 1, | 12: 1, | 22: 1, | 53: 1, | 113: 1, | 40: 1, | 64: 1, | 89: 1, | 59: 1, | 89: 1, | 97: 1, | 20: 1, | 559: 1, | 52: 1, | 36: 1, | 42: 1, | 95: 1, |
| S0404: 3, L0758: 3, | S0212: 2, H0497: 2, | H0551: 2, H0412: | H0561: 2, S0210: 2, | L0521: 2, L0526: 2, | H0506: 2, H0661: 1 | S0418: 1, S0420: 1, | S0358: 1, S04 | H0619: 1, H02 | H0486: 1, T00 | T0060: 1, H0013: 1 | L0021: 1, H05 | H0581: 1, H0052: | H0263: 1, H0373: | H0266: 1, S0312: | S0314: 1, S0022: | H0622: 1, H0553: | H0708: 1, H0413: | H0560: 1, L06 | L0646: 1, L0764: 1, | L0649: 1, L0389: | L0804: 1, L06 | L0543: 1, L0789: | L0664: 1, H0697: | S0374: 1, H0520: | H0435: 1, H0659: | H0666: 1, S0152: | S0406: 1, H04 | S0027: 1, L0742: 1, | L0753: 1, L0595: |
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| H0668: 1, S0276: 1 and H0422: 1. | | | | | | • | AR039: 419, AR096: | 559, AK055: 225, | AR052: 212, AR104: | 168, AR089: 168, | AR060: 114, AR033: | 108, AR055: 99, | AR061: 74 | | | | | | | | | | | | | | |
| | Arg-7 to Val-15. | Val-3 to Lys-9, | Leu-32 to Gin-40. | | | | | | | | | | | • | Lys-7 to Thr-13, | Asp-24 to Thr-30, | Gly-39 to Glu-52. | | | | | Ser-25 to Asn-31, | Asp-38 to Val-48, | Ser-57 to Gly-63. | | Pro-1 to Ser-7, | Val-22 to Asn-29, |
| | 4224 | 4225 | | 4226 | 4227 | 4228 | 4229 | | | | | | | | 4230 | | | 4231 | 4232 | 4233 | 4234 | 4235 | | | 4236 | 4237 | |
| | 3 - 404 | 190 - 309 | | 3 - 431 | 3 - 524 | 3 - 251 | 2 - 361 | | | | | | | | 22 - 318 | | | 2 - 448 | 2 - 298 | 34 - 699 | 1 - 156 | 203 - 469 | | | 1 - 315 | 31 - 459 | |
| | 2049 | 2050 | | 2051 | 2052 | 2053 | 2054 | | | | | | | | 2055 | | | 2056 | 2057 | 2058 | 2059 | 2060 | | | 2061 | 2062 | |
| | HVCAU64R | HVCBD18R | | HVCBE76R | HVCBE79R | | HVCBF89R | | | . _ | | | | | HVCBG01R | | | HVCBQ31R | HVCCA08 HVCCA08R | HVCCK34R | HVCCR91R | HVCCV93R | | | HVCDA75R | HVCDD19R | |
| | HVCAU64 | HVCBD18 | | HVCBE76 | HVCBE79 | HVCBF38 | HVCBF89 | | | | | | | | HVCBG01 | | | HVCBQ31 | HVCCA08 | HVCCK34 | HVCCR91 | HVCCV93 | | | HVCDA75 | HVCDD19 | |

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| | | | | H0666: 8, S0144: 6, | L0747: 5, H0545: 4, | L0769: 4, L0766: 4, | L0731: 4, H0341: 3, | L0764: 3, L0794: 3, | L0750: 3, L0755: 3, | L0758: 3, S0045: 2, | H0257: 2, H0581: 2, | H0546: 2, H0135: 2, | L0803: 2, L0657: 2, | L0789: 2, L0666: 2, | S0044: 2, H0445: 2, | L0588: 2, L0594: 2, | L0601: 2, H0543: 2, | S0040: 1, H0295: 1, | H0583: 1, S0116: 1, | S0212: 1, H0661: 1, | H0664: 1, S0418: 1, | S0356: 1, S0358: 1, | S0360: 1, S0007: 1, | S0046: 1, S0132: 1, | S0278: 1, H0592: 1, | H0586: 1, H0559: 1, | H0575: 1, S0182: 1, | H0620: 1, S0388: 1, | H0083: 1, S0312: 1, |
| Pro-45 to Pro-51, | Arg-59 to Val-64, | Val-92 to Lys-98. | | Ser-56 to Phe-69, | Arg-113 to Thr-123, | Leu-128 to Ser-135, | | | | | | | | | | | | | <u></u> | | | | | | | | | | |
| | | | 4238 | 4239 | | | | | | | | | | - | | | | | | | | | | , | | | | | |
| | | | 3 - 353 | 2-679 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 2064 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | HVCDF50R | HVCDH77 HVCDH77R | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | HVCDF50 | HVCDH77 | | | | | | | | | | | | | | | | | | | | | | | | | |

| H0617: 1, H0169: 1, H0708: 1, H0163: 1, H0551: 1, H0488: 1, T0069: 1, H0102: 1, H0100: 1, H0494: 1, L0475: 1, H0646: 1, S0142: 1, S0002: 1, L0646: 1, L0796: 1, L0645: 1, L0771: 1, L0662: 1, L0771: 1, L0793: 1, L0771: 1, H0791: 1, L0651: 1, L0791: 1, L063: 1, H0519: 1, H0134: 1, S3014: 1, L0740: 1, L0779: 1, L0757: 1, S0031: 1, L0592: 1, H0665: 1, S0276: 1 and | | | | L0766: 12, S0412: 8, S0422: 4, L0756: 4, H0341: 3, H0638: 3, | L0770: 3, L0666: 3, L0777: 3, S0360: 2, | H0318: 2, H0327: 2, |
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| | | | | I S H | 77 | H |
| | 4240 | 4241 | 4242 | 4243 | | |
| | 3 - 155 | 74-619 | 56 - 238 | 403 - 570 | | |
| · | 2065 | 2066 | 2067 | 2068 | | |
| | HVVAB25R | HVVAB37R | HVVAC18R | HVVAD74R | | |
| | HVVAB25 | HVVAB37 | | HVVAD74 | | |
| 1425 | - | | | | | |

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| L0803: 2, H0670: 2, | L0740: 2, L0731: 2, | S0260: 2, S0436: 2, | H0170: 1, H0125: 1 | S0418: 1, S0444: | H0489: 1, H0580: | H0734: 1, S0222: | H0587: 1, H0497: | H0013: 1, H0075: | H0427: 1, H0046: | H0354: 1, L0142: | L0055: 1, H0090: | H0412: 1, S0440: | H0529: 1, H0529: | .0369: 1, L0371: | .0772: 1, L0646: | | .0381: 1, L0650: | | .0655: 1, L0606: | L0790: 1, L0532: 1 | .0663: 1, L0664: | S0374: 1, H0593: | H0711: 1, H0659: | H0658: 1, H0672: | H0521: 1, L0779: | .0755: 1, L0758: | | S0242: 1, H0423: 1 | H0721: 1. |
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| | H0672: 2, L0748: 2, H0156: 1 and H0494: 1. | L0747: 5, L0731: 4, L0742: 3, L0745: 3, L0769: 2, L0766: 2, L0774: 2, L0597: 2, L0604: 2, T0049: 1, S0358: 1, H0549: 1, H0486: 1, T0040: 1, S0280: 1, H0318: 1, H0263: 1, H0529: 1, L0640: 1, L0763: 1, L0771: 1, L0763: 1, L0659: 1, L0517: 1, L0666: 1, L0667: 1, H0648: 1, H0672: 1, H0648: 1, L0779: 1, L0750: 1, L0779: 1, L0780: 1 and L0592: 1. | | | | | | | ١. |
|-------------------|--|--|----------|-------------------|-------------------|---------------------|---------------------|-----------------|--|
| Glu-21 to Ile-26. | Ser-1 to Asp-9, Lys-26 to Gln-36. | | | Gln-33 to Ala-38, | Thr-47 to Asn-64, | Pro-117 to Leu-122, | Thr-160 to Gly-171. | His-1 to Trp-6, | Gly-28 to Asp-34, Arg-41 to Ala-53, |
| 4244 | 4245 | 4246 | 4247 | 4248 | | | | 4249 | |
| 96 - 347 | 157 - 381 | 3 - 245 | 2 - 307 | 3 - 527 | | | | 1 - 327 | • |
| 2069 | 2070 | 2071 | 2072 | 2073 | | | | 2074 | , |
| HVVAE73R | HVVAE88R | HVVAH91R | HVVAI03R | HVVAJ23R | | | | HVVAJ28R | |
| HVVAE73 | HVVAE88 | нуулны | HVVAI03 | HVVAJ23 | | | | HVVAJ28 | |

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| | | L0659: 55, H0644: 23, | L0748: 18, L0666: 17, | L0747: 17, H0622: 16, | S0194: 16, H0553: 15, | L0662: 15, S0126: 15, | L0740: 15, L0754: 14, | H0031: 13, H0593: 12, | L0649: 11, H0435: 11, | L0757: 11, H0124: 10, | 80250: 9, 80356: 8, | H0672: 7, L0362: 7, | L0779: 6, S0210: 5, | L0771: 5, L0663: 5, | L0664: 5, H0547: 5, | L0750: 5, L0601: 5, | S0360: 4, H0619: 4, | L0764: 4, L0804: 4, | L0775: 4, S0358: 3, | H0486: 3, H0628: 3, | H0264: 3, L0451: 3, | L0776: 3, L0655: 3, | L0783: 3, H0693: 3, | H0660: 3, S0454: 3, | L0749: 3, L0605: 3, | S0192: 3, H0170: 2, | H0294: 2, S0180: 2, | H0586: 2, H0013: 2, | H0687: 2, H0428: 2, |
| Arg-69 to Thr-76, | Leu-9/ to Glu-103. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 4250 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 159 - 443 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 2075 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | • | HVVAJ47R | | | | | | | | | | | | | | | | | | | | | | | | | | ; | |
| | | HVVAJ47 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| L0483: 2, H0488: 2, S0450: 2, H0647: 2, S0208: 2, L0648: 2, L0523: 2, L0800: 2 | L0665: 2, H0144: 2, L0565: 2, H0690: 2, H0518: 2, H0696: 2, | S3012: 2, L0752: 2, L0755: 2, L0731: 2, H0665: 2, H0171: 1, H0656: 1, S0212: 1, | \$0376: 1, \$0410: 1, \$0132: 1, H0393: 1, L0717: 1, H0392: 1, | H0331: 1, H0485: 1 T0040: 1, T0060: 1, L0021: 1, H0599: 1 T0082: 1, H0618: 1 | H0052: 1, H0085: 1, T0110: 1, H0046: 1, H0050: 1, L0471: 1, H0355: 1, S0003: 1, | H0615: 1, H0039: 1, L0143: 1, H0111: 1, L0455: 1, S0366: 1, H0135: 1, H0040: 1, | H0551: 1, H0100: 1, L0564: 1, H0509: 1, H0517: 1, L0763: 1, L0769: 1, L0772: 1, |
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| L0646: 1, L0768: 1, L0375: 1, L0784: 1, L0806: 1, L0805: 1, L0653: 1, L0654: 1, L0517: 1, L0384: 1, L0789: 1, L0791: 1, L0789: 1, L0791: 1, H0689: 1, H0682: 1, H0689: 1, H0682: 1, H0704: 1, H0555: 1, S0027: 1, S0128: 1, L0744: 1, L0758: 1, H0595: 1, H0707: 1, S0436: 1, L0591: 1, L0599: 1, S0196: 1, L0600: 1. | | | L0747: 22, L0599: 11, L0766: 9, L0748: 9, L0483: 8, L0740: 7, L0665: 5, L0754: 5, |
| | | Lys-1 to Lys-14, Phe-21 to Trp-26, Val-87 to Cys-92, Thr-139 to Gln-153, Gln-156 to Lys-162, Glu-171 to Leu-177. | |
| | 4251 | 4252 | 4253 |
| | 121 - 312 | 3 - 782 | 372 - 584 |
| | 2076 | | 2078 |
| · | HVVAK42R | HVVAK46 HVVAK46R | HVVAK68 HVVAK68R |
| | HVVAK42 | HVVAK46 | HVVAK68 |

| L0764: 4, L0775: 4, | .0362: 4, H0695: 3, | .0663: 3, H0144: 3, | .0755: 3, H0170: 2, | L0717: 2, H0437: 2, | 10036: 2, H0251: 2, | H0545: 2, L0471: 2, | H0266: 2, H0553: 2, | H0413: 2, L0763: 2, | .0772: 2, L0655: 2, | .0543: 2, L.0666: 2, | H0547: 2, S0406: 2, | .0745: 2, L0749: 2, | .0731: 2, L0757: 2, | .0758: 2, H0445: 2, | .0596: 2, L.0591: 2, | .0581: 2, L0608: 2, | S0192: 2, H0624: 1, | S0134: 1, H0650: 1, | S0116: 1, H0663: 1, | S0356: 1, S0444: 1, | H0580: 1, S0300: 1, | H0441: 1, H0442: 1, | H0586: 1, H0587: 1, | H0333: 1, H0643: 1, | H0632: 1, H0486: 1, | H0013: 1, H0118: 1, | H0042: 1, H0004: 1, | F0048: 1, H0318: 1, | H0421: 1, H0041: 1, |
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| | : | | | <u> </u> | <u>juli</u> | <u> </u> | <u>;+i</u> | ;Ш ; | | | <u>ili</u> | <u>. ;-1</u> | <u>, , , , , , , , , , , , , , , , , , , </u> | <u> </u> | <u></u> | <u> </u> | S | S | S | S | | <u>i-L-i</u> | <u>, 11 </u> | <u>i-1-i</u> | <u><u>i</u></u> | <u>, i-l-i</u> | <u>. </u> | E | |
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| H0014: 1, S0051: 1, | H0083: 1, | S0003: 1, | H0688: 1, | H0163: 1, | H0040: 1, | H0063: 1, | T0069: 1, | J0475: 1, S0015: 1, | H0633: 1, H0538: 1, | L0796: 1, | L0373: 1, | L0375: 1, | L0661: 1, | L0656: 1, | L0647: 1, | H0519: 1, | H0435: 1, | H0670: 1, | S0330: 1, | H0696: 1, | H0214: 1, | L0746: 1, | L0752: 1, | H0343: 1, | L0590: 1, | S0194: 1, H0543: 1, | S0452: 1 and H0506: 1. | | AR089: 67, AR104: 8, |
| H0014: 1, | H0071: 1, H0083: | H0687: 1, S0003: | S0214: 1, | H0031: 1, | H0038: 1, H0040: | H0616: 1, H0063: | H0059: 1, | L0475: 1, | H0633: 1, | L0769: 1, L0796: | L0637: 1, L0373: 1 | L0521: 1, | L0806: 1, | L0527: 1, L0656: | L0809: 1, L0647: | L0664: 1, H0519: | H0682: 1, H0435: 1 | H0659: 1, H0670: | H0672: 1, S0330: | H0521: 1, H0696: | H0134: 1, H0214: | H0555: 1, L0746: | L0750: 1, L0752: | L0759: 1, H0343: 1 | L0589: 1, | S0194: 1, | S0452: 1 a | | AR089: 6 |
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| | | | | | | | | | | | | | | | | | | | - | | | | | | | | | 4254 | 4255 (|
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | HVVAK85R | HVVAL81R |
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| AR096: 5, AR060: 4, | AR055: 4, AR061: 3 | H0169: 21, H0674: 19, | L0754: 19, H0309: 15, | T0060: 7, H0038: 7, | H0509: 7, S0044: 7, | S0358: 6, H0124: 6, | H0163: 6, H0672: 6, | L0731: 6, L0750: 5, | L0603: 5, H0032: 4, | H0616: 4, S0330: 4, | L0749: 4, L0755: 4, | H0597: 3, S0318: 3, | H0622: 3, L0540: 3, | S0328: 3, S0406: 3, | L0758: 3, S0444: 2, | H0486: 2, H0122: 2, | H0355: 2, S0316: 2, | L0770: 2, L0646: 2, | L0771: 2, L0662: 2, | L0364: 2, L0803: 2, | L0783: 2, H0696: 2, | L0743: 2, L0747: 2, | L0581: 2, H0506: 2, | S0356: 1, S0376: 1, | H0675: 1, H0643: 1, | H0706: 1, H0253: 1, | H0085: 1, H0204: 1, | H0510: 1, S0314: 1, | H0553: 1, H0673: 1, |
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| S0366: 1, H0380: 1, T0004: 1, S0438: 1, L0372: 1, L0773: 1, L0567: 1, L0806: 1, L0519: 1, L0529: 1, H0691: 1, S0148: 1, H0660: 1, S0004: 1, S0146: 1, L0780: 1, S0194: 1 and S0276: 1. | | | | | | H0672: 2, S0007: 1, | .0717: 1, H0545: 1, | 0764: 1, L0649: 1, | L0659: 1, L0809: 1, | .0438: 1, H0555: 1, | .0748: 1, L0754: 1 and | .0752: 1. | L0659: 14, L0740: 11, | H0052: 8, L0662: 8, | L0666: 8, H0059: 7, | H0265: 6, H0040: 6, |
|--|------------------------------------|--------------------------|-------------------|---------|--|---------------------|---------------------|--------------------|---------------------|---------------------|------------------------|-----------|-----------------------|---------------------|---------------------|---------------------|
| N H H H H N N | Arg-1 to Cys-10, Asn-29 to Phe-38. | | Lys-62 to Tyr-73. | | Leu-36 to Ser-43, Gly-68 to Phe-73. | Lys-17 to Tyr-22. | | 닏 | <u> </u> | | <u>.</u> | 1 | | | <u> </u> | |
| | 4256 | 4257 | 4258 | 4259 | 4260 | 4261 | | | | | | | 4262 | | | |
| · | 124 - 354 | 3 - 413 | 1 - 324 | 2 - 436 | 3 - 236 | 7 - 171 | - | | | | | | 1 - 189 | | | |
| | 2081 | 7807 | 2083 | 2084 | 2085 | 2086 | | | | | • | | 2087 | | | |
| | HVVAP65 HVVAP65RP 00B | HVVAS27 HVVAS27RP 00B | 26R | | HVVBF09R | HVVBF66R | | | | | | | HVVBH88R | | | |
| | HVVAP65 | HVVAS27 | HVVAW26 | HVVBD91 | HVVBF09 | HVVBF66 | | | | | | | HVVBH88 | | | |

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| L0596: 6, S0356: 5, | S0358: 5, H0539: 5, | L0751: 5, L0750: 5, | H0431: 4, L0759: 4, | H0442: 3, H0575: 3, | H0051: 3, T0010: 3, | H0428: 3, H0031: 3, | H0135: 3, H0433: 3, | H0412: 3, H0509: 3, | L0637: 3, L0372: 3, | L0521: 3, L0806: 3, | L0519: 3, L0663: 3, | L0664: 3, L0665: 3, | S0378: 3, L0591: 3, | L0593: 3, H0483: 2, | S0360: 2, H0587: 2, | H0013: 2, H0036: 2, | S0010: 2, S0049: 2, | H0194: 2, T0110: 2, | H0046: 2, H0123: 2, | H0024: 2, H0083: 2, | H0179: 2, T0006: 2, | H0038: 2, H0538: 2, | S0002: 2, L0769: 2, | L0796: 2, L0646: 2, | L0374: 2, L0648: 2, | L0776: 2, H0520: 2, | H0519: 2, H0689: 2, | H0555: 2, S0028: 2, | L0439: 2, L0752: 2, |
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| L0755: 2, L0366: 2, | H0542: 2, H0556: 1, | S0040: 1, S0114: 1, | 0049: 1, S0212: 1, | 10638: 1, H0125: 1, | S0420: 1, S0354: 1, | 0376: 1, H0675: 1, | H0489: 1, S0468: 1, | S0132: 1, S0005: 1, | 10492: 1, T0109: 1, | S0346: 1, H0505: 1, | H0318: 1, H0581: 1, | H0196: 1, H0309: 1, | H0263: 1, H0545: 1, | 10050: 1, L0471: 1, | H0012: 1, H0620: 1, | H0014: 1, S0051: 1, | H0510: 1, H0266: 1, | H0188: 1, S0214: 1, | H0252: 1, H0039: 1, | H0622: 1, H0424: 1, | 10030: 1, H0553: 1, | H0644: 1, H0316: 1, | S0036: 1, H0634: 1, | H0551: 1, H0551: 1, | 0564: 1, T0041: 1, | F0042: 1, L0475: 1, | H0130: 1, S0144: 1, | S0142: 1, S0344: 1, | S0210: 1, L0638: 1, |
| 1 | <u> </u> | <u>s</u> | Ē | H | <u>S</u> | Š | H | <u>x</u> | 三 | S | <u> </u> | I | 耳 | 耳 | 耳 | H | H | H | <u>.</u> | H | H | H | <u>S</u> | H | <u> </u> | Ĕ | 耳 | S | S |
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| L0761: 1, L0803: 1, L0653: 1, L0661: 1, L0527: 1, L0661: 1, L0783: 1, L0809: 1, T0068: 1, L0438: 1, S0126: 1, H0690: 1, H0652: 1, H0670: 1, H0651: 1, S0380: 1, H0651: 1, S044: 1, H0478: 1, L0742: 1, L0748: 1, L0747: 1, L0758: 1, L0747: 1, L0758: 1, L0767: 1, L0758: 1, L0603: 1, S0011: 1, S0194: 1, S0011: 1, S0194: 1, S0196: 1, S0042: 1, | | | | | | | |
|--|----------|------------------|-------------------|-------------------|--------------------|-----|----------|
| | | Gln-5 to Pro-13, | Pro-25 to Lys-32, | Gln-78 to Ser-85, | 110-21 to Oiu-103. | | |
| | 4263 | 4564 | | | 4265 | | 4266 |
| | 2 - 592 | 150 - 578 | | | 3 - 413 | | 1 - 633 |
| | 2088 | 2089 | | | 2090 | | 2091 |
| | HVVBI16R | HVVBJ08R | | | HVVB155 HVVB155RP | 00B | HVVBK13R |
| | HVVBI16 | HVVBJ08 | | | HVVB155 | | HVVBK13 |

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| | | | | | | | | | | | | | | | | | | | | L0439: 23, L0438: 20, | H0556: 10, L0665: 10, | S0358: 9, L0731: 8, | H0423: 8, H0069: 7, | H0622: 7, L0666: 7, | L0748: 7, L0747: 7, | H0486: 6, H0090: 6, | L0664: 6, H0519: 6, |
| Pro-62 to Pro-73, | Thr-80 to Ser-92, | Gln-108 to Tyr-116. | 4 | | Asn-15 to Leu-27, | Lys-46 to val-55. | | | Pro-1 to Phe-9, | Ser-111 to Asn-117, | Ser-159 to Pro-167. | Ser-56 to Tyr-62, | Gln-67 to Pro-74, | Thr-83 to Gly-94, | Gln-120 to Gln-130, | Pro-150 to Ser-157. | | Lys-40 to Gly-47. | | • | | | | | | | · |
| 4267 | | | 4268 | 4269 | 4270 | | 4271 | 4272 | 4273 | | | 4274 | | | | | 4275 | 4276 | 4277 | 4278 | | | | | | | |
| 3 - 644 | | | 50 - 433 | 2 - 406 | 116 - 316 | | 454 - 2 | 3 - 161 | 2 - 580 | | | 1 - 792 | | | | | 299 - 427 | 224 - 481 | 2 - 640 | 447 - 695 | | | | | | | |
| 2002 | | | 2093 | 2094 | 2095 | | 2096 | 2097 | 2098 | | | 2099 | | | | | 2100 | 2101 | 2102 | 2103 | | | | | | | |
| HVVBO65 HVVBO65R | | | HVVBO88R | HVVBR70 HVVBR70RP 2094 00B | HVVBT33R | | HVVBT60 HVVBT60R | HVVBY87 HVVBY87R | HVVCB04R | | | HVVCB08R | | | | | HVVCC06R | HVVCD65R | HVVCD81R | | | | | | | | |
| HVVBO65 | | | HVVBO88 | HVVBR70 | HVVBT33 | | HVVBT60 | HVVBY87 | HVVCB04 | | | HVVCB08 | | | | | HVVCC06 | HVVCD65 | HVVCD81 | HVVCD87 | | | | | | | |

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| H0539: 6, L0749: 6, | .0596: 6, S0222: 5, | H0457: 5, H0435: 5, | .0756: 5, L0758: 5, | .0601: 5, H0013: 4, | H0046: 4, H0150: 4, | H0266: 4, H0038: 4, | .0771: 4, L0662: 4, | .0659: 4, L0663: 4, | H0670: 4, H0672: 4, | H0521: 4, S0404: 4, | .0745: 4, H0265: 3, | 114: 3, H0650: 3, | H0662: 3, S0360: 3, | S0045: 3, H0333: 3, | H0156: 3, H0318: 3, | H0050: 3, H0620: 3, | F0010: 3, H0375: 3, | H0428: 3, H0039: 3, | H0591: 3, H0040: 3, | 063: 3, H0412: 3, | H0100: 3, H0529: 3, | L0770: 3, L0775: 3, | 809: 3, H0547: 3, | S0126: 3, H0436: 3, | J0741: 3, L0752: 3, | S0026: 3, H0624: 2, | H0713: 2, H0583: 2, | S0116: 2, H0663: 2, | H0305: 2, H0638: 2, |
| H | <u>91</u> | HC | <u>3</u> | <u> </u> | HC |)H | <u>2</u> | <u>3</u> | OH OH | OH OH | <u> </u> | 08 | OH HO | <u>S</u> | 0H | OH OH | <u>17</u> | OHI HO | OH | OH | OH OH | 27 | <u>2</u> | SOS | 10 | 08 | OH | OS | HC |
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| S0418: 2, S0442: 2, | H0580: 2, S0007: 2, | H0619: 2, L0717: 2, | H0261: 2, H0392: 2, | H0586: 2, H0587: 2, | H0635: 2, H0271: 2, | H0687: 2, H0553: 2, | L0456: 2, H0616: 2, | H0413: 2, H0560: 2, | L0764: 2, L0773: 2, | L0521: 2, L0774: 2, | L0378: 2, L0806: 2, | L0493: 2, L0517: 2, | L0647: 2, H0690: 2, | H0659: 2, H0658: 2, | L0740: 2, L0757: 2, | L0588: 2, H0542: 2, | H0422: 2, L0600: 2, | H0171: 1, S0218: 1, | H0657: 1, H0656: 1, | H0341: 1, S0298: 1, | S0212: 1, S0110: 1, | S0001: 1, S0030: 1, | H0661: 1, S0420: 1, | S0356: 1, S0376: 1, | S0444: 1, S0046: 1, | S0476: 1, H0550: 1, | H0441: 1, H0438: 1, | H0492: 1, H0485: 1, | H0427: 1, S0280: 1, |
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| pu | | | | | | - pu | | | |
| H0144: 1, L0352: 1, H0520: 1, H0682: 1, H0660: 1, H0651: 1, H0710: 1, H0518: 1, S0152: 1, H0579: 1, H0696: 1, S0146: 1, H0696: 1, S0146: 1, S0028: 1, L0771: 1, L0779: 1, L0774: 1, L0779: 1, L0773: 1, L0779: 1, L0777: 1, L0779: 1, L0777: 1, L0780: 1, L0777: 1, L0789: 1, L0773: 1, L0599: 1, L0687: 1, L0599: 1, L0608: 1, L0599: 1, L0608: 1, L0599: 1, H0136: 1, S0276: 1, S0194: 1, S0276: 1, H0543: 1, S0424: 1 and S0452: 1. | | , | | | H0135: 2, S0046: 1, S0222: 1, H0052: 1, | H0672: 1, S0328: 1 and | H0214: 1. | | |
| | | | | | | | | | Gly-16 to Lys-22, Trp-82 to Lys-87. |
| | 4279 | 4280 | 4281 | 4282 | 4283 | | | 4284 | 4285 |
| | 47 - 754 | 338 - 778 | 2 - 214 | 3 - 497 | 1 - 441 | | | 2 - 415 | 3 - 350 |
| | 2104 | 2105 | 2106 | 2107 | 2108 | | | 2109 | 2110 |
| | HVVCD90R | HVVCE63R | HVVCE65R | HVVCF38R | HVVCG29 HVVCG29R 7 | | | HVVCG31 HVVCG31R | HVVCG46 HVVCG46R |
| | HVVCD90 | HVVCE63 | HVVCE65 | HVVCF38 | HVVCG29 | | | HVVCG31 | HVVCG46 |

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|--|--|--|----------|------------------|-------------------|---------------------|--|---------------------|---------------------|---------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
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| S: : | | | | | | | | | | | | | | | | | | | | · · | | |
| AR089: 107, AR096: 52, AR104: 30, AR06 27, AR061: 14, AR05 13 | | · | | | | | | H0585: 4, H0457: 4, | .0809: 4, L0747: 4, | S0442: 3, H0492: 3, | H0427: 3, H0318: 3, | L0666: 3, H0690: 3, | H0686: 2, H0662: 2, | S0358: 2, S0408: 2, | H0150: 2, H0135: 2, | 10063: 2, H0494: 2, | L0761: 2, L0764: 2, | .0773: 2, L0662: 2, | .0378: 2, L0665: 2, | H0670: 2, S0406: 2, | .0744: 2, L0749: 2, | .0601: 2, H0170: 1, |
| Arg-48 to Asn-57, AR089: 107, AR096: Lys-77 to Glu-83, 52, AR104: 30, AR060: Phe-106 to Asp-112.27, AR061: 14, AR055: 13 | Glu-81 to Gly-91, Arg-107 to Asn-116. | Asp-10 to Lys-15, Lys-29 to Asp-34. | | Asp-1 to Thr-14, | Ala-76 to Thr-88, | Asp-101 to Lys-115, | Ala-128 to Gln-136, Pro-141 to Gln-151. | | <u></u> | <u>S</u> | <u> 11</u> | | <u>,µ</u> | <u>8</u> | <u> </u> | <u> </u> | | | | | | 1 |
| 4286 | 4287 | 4288 | 4289 | 4290 | | | | 4291 | | | | | | | | | | • | | | | |
| 1 - 405 | 3 - 350 | 3 - 119 | 44 - 460 | 3 - 647 | | | | 1 - 351 | | | | | | | | • | | | • | | | |
| 2111 | 2112 | 2113 | 2114 | 2115 | | | | 2116 | | | | | | | | | | | | | | |
| HVVCG93 HVVCG93R | HVVCH28 HVVCH28R | HVVCI28R | HVVCI50R | HVVCI85R | | | | HVVCJ51R | | | | | | | | | | | | | | |
| HVVCG93 | HVVCH28 | HVVCI28 | HVVCIS0 | HVVCI85 | | | | HVVCJ51 | | | | | | | | | | | | | - | |

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| H0685: 1, H0661: 1. | H0402: 1, S0348: 1, | 80354: 1, 80376: 1, | 50: 1, S0278: 1, | 86: 1, H0333: 1, | 42: 1, L0622: 1, | 80: 1, H0599: 1, | 53: 1, H0231: 1, | H0545: 1, H0373: 1, | 66: 1, H0553: 1, | 36: 1, H0551: 1, | H0116: 1, H0264: 1, | 59: 1, S0352: 1, | t0: 1, H0646: 1, | 40: 1, L0639: 1, | 30: 1, L0772: 1, | 73: 1, L0646: 1, | L0800: 1, L0641: 1, | 74: 1, L0644: 1, | 45: 1, L0794: 1, | L0766: 1, L0774: 1, | 75: 1, L0659: 1, | 93: 1, L0532: 1, | 54: 1, H0520: 1, | H0672: 1, S0380: 1, | H0696: 1, H0478: 1, | H0345: 1, L0439: 1, | .0750: 1, L0759: 1, | | 22: 1. |
| 90H | H04 | S035 | S036 | H05 | 90H | 8058 | H02; | H05 | H026 | S0036: 1 | . H01 | H00; | S044 | 7907 | 1063 | 1037 | 1080 | 1037 | 7907 | 1076 | 1.077 | 1079 |)90T | .90H | 90H | H03 | 1073 | H03 | H0422 |
| | | | | | • | | | | - | | | | | | | | | | • | | | | | - | | | | | |
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| L0751: 3, L0757: 3, L0662: 2, H0686: 1, H0266: 1, L0055: 1, L0763: 1, L0764: 1, L0768: 1, L0805: 1, L0653: 1, L0666: 1, H0690: 1, H0672: 1, L0777: 1, L0758: 1 and S0276: 1. | | | | | | | | | | | | | | | | | H0521: 182, H0522: | 34, S0002: 30, S0278: | Z/, HU036: 23, 3U344. |
|--|----------|-------------------|--|--|------------------|-------------------|--------------------|---------------------|---------------------|---------------------|---------------------|-------------------|-------------------|-------------------|----------|------------------|--------------------|-----------------------|-----------------------|
| | | Pro-11 to Lys-31, | Ser-30 to Gin-44, Thr-53 to Gly-58, | Ala-74 to Arg-87, Pro-105 to His-113. | Gly-8 to Lys-22, | Phe-29 to Trp-34, | Val-95 to Cys-100, | Thr-147 to Gln-161, | Gln-164 to Lys-170, | Glu-179 to Leu-185, | Pro-194 to Gly-199. | Trp-36 to Thr-43, | Gly-51 to Thr-70, | Tyr-87 to Glu-97. | | • | | | |
| 4292 | 4293 | 4294 | | | 4295 | | | | | | | 4296 | | | 4297 | 4298 | 4299 | | |
| 1 - 147 | 3 - 320 | 1 - 339 | | | 2 - 775 | | | | | | | 3 - 293 | | | 3 - 347 | 35 - 466 | 96 - 332 | | |
| 2117 | 2118 | 2119 | · | | 2120 | | · | • | | | | 2121 | | | 2122 | 2123 | | | |
| HVVCK59R HVVCK59R | HVVCK78R | HVVCL52R | | | HVVCL73R | | | | | | | HVVCM67 HVVCM67R | | | HVVCM84R | HVVCN20 HVVCN20R | HVVCN29 HVVCN29R | | |
| HVVCK59 | HVVCK78 | HVVCL52 | | | HVVCL73 | | | | | | | HVVCM67 | | | HVVCM84 | HVVCN20 | HVVCN29 | | |

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| 13, S0144: 11, S0142: 9, H0580: 8, L0740: 6, | .0747: 6, H0445: 6, | H0090: 5, L0756: 5, | .0777: 5, S0360: 4, | H0591: 4, S0426: 4, | .0771: 4, L0766: 4, | .0776: 4, L0754: 4, | S0194: 4, H0341: 3, | S0376: 3, H0393: 3, | H0575: 3, H0538: 3, | 0144: 3, H0716: 2, | S0212: 2, H0637: 2, | H0331: 2, H0632: 2, | H0486: 2, H0590: 2, | H0046: 2, H0051: 2, | S0440: 2, H0509: 2, | .0783: 2, L0663: 2, | H0555: 2, L0748: 2, | .0439: 2, L.0745: 2, | 758: 2, L0362: 2, | H0170: 1, H0685: 1, | [0049: 1, H0177: 1, | S0442: 1, S0408: 1, | S0132: 1, S0476: 1, | S0300: 1, S6022: 1, | H0392: 1, H0537: 1, | H0438: 1, H0587: 1, | H0497: 1, H0270: 1, | T0060: 1, H0013: 1, |
| 13 HC | 2 | HC | <u>3</u> | H | <u>3</u> | <u>3</u> | <u>S0</u> | <u>S</u> | HC | HC | <u>S</u> | HC | HC | HC | OS S | <u>01</u> |)HC | <u>3</u> | <u> </u> | HC | TO | <u>S</u> | <u>S</u> | <u>80</u> |)H | H | H | TO |
| | | | | | <u> </u> | | | | | | | | | | | | | | | | | | | | | | | |
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| H0427: 1, L0021: 1, | H0581: 1, H0374: 1, | H0597: 1, H0544: 1, | H0546: 1, H0569: 1, | H0123: 1, L0471: 1, | H0012: 1, S0388: 1, | H0275: 1, H0375: 1, | H0286: 1, S0003: 1, | L0194: 1, T0006: 1, | H0644: 1, H0032: 1, | H0674: 1, H0361: 1, | S0036: 1, H0038: 1, | H0040: 1, H0551: 1, | H0413: 1, L0475: 1, | H0561: 1, S0438: 1, | H0131: 1, H0641: 1, | L0369: 1, L0762: 1, | L0637: 1, L0800: 1, | L0662: 1, L0649: 1, | L0388: 1, L0774: 1, | L0775: 1, L0651: 1, | L0653: 1, L0809: 1, | L0789: 1, L0666: 1, | L0665: 1, S0374: 1, | S0126: 1, H0435: 1, | H0659: 1, H0672: 1, | S0378: 1, H0518: 1, | S0392: 1, S3014: 1, | L0751: 1, L0779: 1, | L0780: 1, L0731: 1, |
| | | | | | | | | | | | - | | | | | | | | | | | | - 12 - E-1, | | | | | | |
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| L0759: 1, S0260: 1, | L0599: 1, S0026: 1, | H0423: 1, S0412: 1 and | H0506: 1. | | | | | | | | | | | | | | | | H0672: 2 and L0518: | 1. | | | | | L0659: 55, H0644: 23, | L0748: 18, L0666: 17, | L0747: 17, H0622: 16, | S0194: 16, H0553: 15, |
| | | | | | | Gln-61 to Pro-68, | Gln-103 to Ala-108, | Tyr-111 to Thr-117. | Val-28 to Ser-33. | Lys-54 to Ala-67, | Arg-77 to Thr-86. | | Ala-35 to Ala-41, | Pro-46 to Gly-54, | Pro-67 to Gly-87. | Ser-23 to Lys-30. | Glu-74 to Arg-79, | Glu-117 to Arg-134. | Arg-30 to Phe-36. | | | | Arg-11 to Pro-17, | Ser-33 to Lys-46. | His-1 to Asn-8, | Arg-10 to Gly-16, | Tyr-50 to Gly-56. | |
| | | | | 4300 | 4301 | 4302 | | | 4303 | 4304 | | 4305 | 4306 | - | | 4307 | 4308 | | 4309 | | 4310 | 4311 | 4312 | | 4313 | | | |
| | | | | 2 - 460 | 3 - 212 | 2 - 352 | | | 170 - 334 | 3 - 404 | | 2 - 442 | 3 - 449 | | | 11 - 184 | 3-605 | | 10 - 144 | | 1 - 630 | 105 - 335 | 35 - 217 | | 237 - 698 | | | |
| | | | | 2125 | 2126 | 2127 | | | 2128 | 2129 | | 2130 | 2131 | | | 2132 | 2133 | | 2134 | | 2135 | 2136 | 213 | · | 2138 | | | |
| | | | | HVVCN54R | HVVCN66R | HVVC013 HVVC013R 2127 | | | HVVC016R | | | | HVVCP88R | | | HVVCQ05R | HVVCQ49 HVVCQ49R | | HVVCQ70 HVVCQ70R | | HVVCQ93R | HVVCS28R | HVVCS32R | | HVVCT54R | | | |
| | | | | HVVCN54 | HVVCN66 | HVVC013 | | | HVVC016 | HVVCO87 | | HVVCP41 | HVVCP88 | | | HVVCQ05 | HVVCQ49 | | HVVCQ70 | | HVVCQ93 | HVVCS28 | HVVCS32 | | HVVCT54 | | | |

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| .0662: 15, S0126: 15, | _0740: 15, L0754: 14, | H0031: 13, H0593: 12, | H0435: 11, | L0757: 11, H0124: 10, | 30356: 8, | L0362: 7, | 30210: 5, | .0663: 5, | 10547: 5, | .0601: 5, | 10619: 4, | .0804: 4, | 30358: 3, | H0628: 3, | L0451: 3, | .0655: 3, | 10693: 3, | 30454: 3, | .0605: 3, | 10170: 2, | 50180: 2, | H0013: 2, | H0428: 2, | 10488: 2, | 10647: 2, | .0648: 2, | J0809: 2, | 10144: 2, | 10690: 2, |
| L0662: 15, | L0740: 15, | H0031: 13, | L0649: 11, | L0757: 11, | 80250: 9, 80356: 8, | H0672: 7, L0362: 7, | L0779: 6, S | L0771: 5, L0663: 5, | L0664: 5, I | L0750: 5, I | S0360: 4, H0619: 4, | L0764: 4, I | L0775: 4, S0358: 3, | H0486: 3, H0628: 3, | H0264: 3, 1 | L0776: 3, L0655: 3, | L0783: 3, H0693: 3, | H0660: 3, S0454: 3, | L0749: 3, L0605: 3, | S0192: 3, H0170: 2, | H0294: 2, S0180: 2, | H0586: 2, H0013: 2, | H0687: 2, H0428: 2, | L0483: 2, H0488: 2, | S0450: 2, F | S0208: 2, L0648: 2, | L0523: 2, I | L0665: 2, H0144: 2, | L0565: 2, H0690: 2, |
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| H0518: 2, H0696: 2, | S3012: 2, L0752: 2, | L0755: 2, L0731: 2, | H0665: 2, H0171: 1, | H0656: 1, S0212: 1, | S0376: 1, S0410: 1, | S0132: 1, H0393: 1, | L0717: 1, H0392: 1, | H0331: 1, H0485: 1, | F0040: 1, T0060: 1, | L0021: 1, H0599: 1, | T0082: 1, H0618: 1, | H0052: 1, H0085: 1, | F0110: 1, H0046: 1, | H0050: 1, L0471: 1, | H0355: 1, S0003: 1, | H0615: 1, H0039: 1, | L0143: 1, H0111: 1, | L0455: 1, S0366: 1, | H0135: 1, H0040: 1, | H0551: 1, H0100: 1, | L0564: 1, H0509: 1, | H0517: 1, L0763: 1, | L0769: 1, L0772: 1, | L0646: 1, L0768: 1, | L0375: 1, L0784: 1, | L0806: 1, L0805: 1, | L0653: 1, L0654: 1, | L0517: 1, L0384: 1, | L0383: 1, L0647: 1, |
| | <u> </u> | | | | | <u> </u> | | | | | | | <u>-</u> | - | | | | | | | | | <u> </u> | , | | | | | |
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|--|--------------------|----------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| L0789: 1, L0791: 1, L0438: 1, H0520: 1, H0689: 1, H0682: 1, H0684: 1, S0152: 1, H0704: 1, H0555: 1, S0432: 1, S3014: 1, S0027: 1, S0028: 1, L0744: 1, L0758: 1, H0595: 1, H0707: 1, S0436: 1, L0591: 1, L0599: 1, S0196: 1, L0600: 1. | | L0748: 18, L0794: 7, | L0438: 7, L0777: 7, | .0809: 6, L.0439: 6, | .0756: 6, L0750: 5, | .0717: 3, L0770: 3, | L0776: 3, L0664: 3, | L0747: 3, L0757: 3, | S0222: 2, H0013: 2, | H0596: 2, H0040: 2, | .0769: 2, L0768: 2, | .0766: 2, H0672: 2, | .0731: 2, L0758: 2, | L0591: 2, L0599: 2, | H0624: 1, S0342: 1, | H0638: 1, S0376: 1, | H0549: 1, H0587: 1, |
| | | | Lys-13 to His-25. | | | | | | <u> </u> | | | | | | . ===. | | |
| | 4314 | 4315 | | | | | | | | | | | | | | | |
| | 340 - 522 | 365 - 529 | | | | | | | | | | - | - | | | | |
| | 2139 | 2140 | - | | | | | | | | | | | | | | |
| | HVVCT62 HVVCT62R | HVVCU14R | | | | | | | | | | | | | | | |
| | HVVCT62 | HVVCU14 | | | | | | | | | | | | | | | |

| 55: 1, 22: 1, 53: 1, 1: 1, 1: 1, 3: 1, 3: 1, 0: 1, 0: 1, | 750: 15, 69: 9, 69: 9, 69: 9, 71: 3, 72: 3, 73: 3, 73: 3, 73: 3, 73: 3, 73: 3, |
|--|--|
| H0574: 1, H0635: 1, S0049: 1, H0052: 1, H0288: 1, H0286: 1, H0553: 1, L0455: 1, L0763: 1, L0659: 1, L0763: 1, L0659: 1, L0763: | L0747: 16, L0750: 15, L0752: 15, L0769: 9, L0757: 9, L0005: 8, L0774: 6, L0740: 8, L0774: 6, L0471: 5, H0087: 5, L0772: 4, L0731: 4, L0588: 4, H0657: 3, H0599: 3, S0049: 3, H0699: 3, H0660: 3, H0672: 3, L0783: 3, S0374: 3, H0660: 3, H0672: 3, L0783: 3, S0222: 2, H0441: 2, H0251: 2, L0749: 3, H0261: 2, H0251: 2, H0441: 2, H0251: 2, |
| | Gln-8 to Lys-13, Glu-32 to Arg-56, Ser-60 to Thr-69. |
| | 4316 |
| · | 23 - 307 |
| | 2141 |
| | HVVCU50R |
| | HVVCU50 |

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| H0309: 2, H0620: 2, H0266: 2, T0067: 2, | 494: 2, L0761: 2, | L0651: 2, L0518: 2, | 126: 2, H0670: 2, | 328: 2, H0521: 2, | 012: 2, S0206: 2, | 745: 2, L0753: 2, | 759: 2, L0596: 2, | 608: 2, H0423: 2, | H0395: 1, T0002: 1, | 685: 1, S0218: 1, | S0116: 1, S0110: 1, | 484: 1, H0661: 1, | 663: 1, H0306: 1, | 402: 1, S0356: 1, | S0442: 1, S0358: 1, | S0360: 1, H0208: 1, | S0045: 1, H0393: 1, | H0351: 1, H0392: 1, | H0333: 1, H0574: 1, | L0623: 1, T0039: 1, | 040: 1, L0586: 1, | 250: 1, H0156: 1, | 575: 1, S0346: 1, | H0318: 1, H0581: 1, | 421: 1, H0597: 1, | H0546: 1, H0545: 1, | H0046: 1, H0041: 1, | H0081: 1, H0012: 1, |
| 0H 0H | OH HO | <u>10</u> | 200 | <u> </u> | 23(| oī | 2 | <u>2</u> | HO | OH | S0. | OH | HO | HO | 20 <u>S</u> | 30S | 200 |)OH | H0. | <u> </u> | <u>JOL</u> |)OH | HO | HO | OH | HO | OH | OH |
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| 388: 1, | 356: 1, | 594: 1, |)428: 1, | 0674: 1, | 135: 1, | | 004: 1, | 042: 1, | 0641: 1, | 1, S0144: 1, | 763: 1, | 637: 1, | 768: 1, | L0376: 1, | 632: 1, | 659: 1, | L0809: 1, | 663: 1, | 565: 1, |)547: 1, | 1690: 1, | 579: 1, | 631: 1, | 742: 1, | 746: 1, | 434: 1, | 192: 1, | 542: 1, | 506: 1 and |
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| H0023: 1, S0388: | H0275: 1, H0356: | S0023: 1, H0594: 1 | H0188: 1, H0 | H0535: 1, H0674: | S0036: 1, H0135: | H0063: 1, H0413: | H0056: 1, T0004: | H0100: 1, T0042: | H0334: 1, H0 | H0647: 1, S0 | S0344: 1, L0763: | | | L0364: 1, L0 | | | L0782: 1, L0 | L0666: 1, L0 | H0144: 1, L0565: | H0691: 1, H0547: | H0593: 1, HC | H0684: 1, H0579: | S0044: 1, H0631: | S0028: 1, L0742: | L0748: 1, L0746: | S0031: 1, S0434: | H0667: 1, S0192: | S0276: 1, H0542: 1 | H0422: 1, H0506: 1 |
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| L0600: 1. | | | L0794: 5, H0617: 4, H0486: 3, L0800: 3, | L0764: 3, H0672: 3, | Glu-124 to Glu-136. L0751: 3, S0360: 2, | H0188: 2, S0022: 2, | L0769: 2, L0803: 2, | L0809: 2, L0665: 2, | L0361: 2, H0556: 1, | H0583: 1, H0657: 1, | S0418: 1, L0005: 1, | S0354: 1, S0408: 1, | S0045: 1, S0046: 1, | S6014: 1, H0587: 1, | H0333: 1, H0559: 1, | H0596: 1, H0673: 1, | H0616: 1, H0494: 1, | L0761: 1, L0662: 1, | L0651: 1, L0659: 1, | L0382: 1, L5622: 1, | L0663: 1, H0690: 1, | H0670: 1, S0152: 1, | S0390: 1, L0747: 1, | L0777: 1, L0731: 1, | L0758: 1, S0436: 1, |
| | Glu-1 to Gln-10, Val-74 to Arg-83. | Pro-12 to Ser-18, Pro-25 to Pro-30, Ala-62 to Ser-70. | Met-22 to Asp-27, Cys-43 to Trp-50, | Asp-79 to Trp-93, | Glu-124 to Glu-136. | | | | | | | | | | | | | | | | | | | | |
| | 4317 | 4318 | 4319 | | | | | | | | | | | | | | | | | | | | | | |
| | 2 - 310 | 2 - 244 | 3 - 410 | | | | | | | | | • | | | | | | • | | | | | | | |
| | 2142 | 2143 | 2144 | | | | | | | | | | į | | | | | | | | | | | | |
| | HVVCV41R | HVVCV68R | HVVCW75 HVVCW75R | | | | | | | | | | | | | | | | | | | | | | |
| | HVVCV41 | HVVCV68 | HVVCW75 | | | | | | | | | | | | | | | | | | | | | | |

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| | | | | | | | | | | | | | | | | | | | | | | | | | | _ | | | |
| L0592: 1, L0601: 1 and | S0424: 1. | H0052: 15, H0585: 12, | L0740: 12, L0439: 11, | L0758: 10, L0754: 9, | L5286: 8, L0748: 8, | H0141: 7, L0666: 7, | H0521: 7, L0742: 7, | L0749: 7, H0556: 6, | S0222: 6, H0494: 6, | L0743: 6, L0751: 6, | L0757: 6, H0253: 5, | T0010: 5, L0803: 5, | L0731: 5, H0657: 4, | S0360: 4, S0408: 4, | S0046: 4, S0278: 4, | H0618: 4, S0049: 4, | H0617: 4, H0623: 4, | S0038: 4, L0764: 4, | L0766: 4, L0805: 4, | L0809: 4, L0744: 4, | L0746: 4, S0040: 3, | S0212: 3, L0005: 3, | H0441: 3, H0333: 3, | H0013: 3, H0599: 3, | H0009: 3, H0242: 3, | H0644: 3, H0038: 3, | H0551: 3, H0412: 3, | T0042: 3, L0769: 3, | L0804: 3, L0774: 3, |
| | | Asp-1 to Pro-10. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 4320 | | | | | | | | | | | | | | | | | - | | | | | | | | | | |
| | | 124 - 297 | | • | | | | | | | | | | • | | | | | | | | | | | | | | | |
| | | 2145 | | | | | | | | | | | | | | | | | | | | | - | | | | | | |
| | | HVVCX17R | | | | | | | | | | | | | - | | | | | | | | | | | | | | |
| | | HVVCX17 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| L0776: 3. L0792: 3. | L0663: 3, L0438: 3, | S0044: 3, S0406: 3, | S0028: 3, L0745: 3, | L0779: 3, L0752: 3, | L0362: 3, S6024: 2, | H0733: 2, S0132: 2, | H0261: 2, H0455: 2, | H0438: 2, H0497: 2, | H0041: 2, L0471: 2, | H0620: 2, H0024: 2, | H0051: 2, H0266: 2, | H0284: 2, S0250: 2, | T0006: 2, S0366: 2, | S0036: 2, H0591: 2, | S0344: 2, L0369: 2, | L5623: 2, L0791: 2, | L0665: 2, S0374: 2, | H0520: 2, S0126: 2, | H0672: 2, H0436: 2, | L0741: 2, L0747: 2, | L0750: 2, L0756: 2, | L0759: 2, S0436: 2, | L0591: 2, L0592: 2, | L0485: 2, L0608: 2, | L0593: 2, L0595: 2, | H0667: 2, H0423: 2, | L0718: 2, H0149: 1, | H0265: 1, H0139: 1, | H0716: 1, S0114: 1, |
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| H0213: 1, L0142: 1, H0181: 1. H0606: 1. |
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| L0640: 1, L0637: 1, L5575: 1, L0800: 1, L0648: 1, L0794: 1, L0655: 1, L0657: 1, L0659: 1, L0542: 1, L0783: 1, L0382: 1, L5622: 1, H0144: 1, H0690: 1, H0519: 1, H0690: 1, H0539: 1, S0454: 1, S0404: 1, H0555: 1, S3014: 1, L0780: 1, L0755: 1, H0445: 1, H0595: 1, S0434: 1, L0588: 1, L0605: 1, L0366: 1, H0136: 1, H0542: 1, H0543: 1, H0542: 1, H0566: 1 and H0008: 1. | |
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| • | Arg-9 to Ile-31, Gln-38 to Lys-43, Gln-87 to Ala-92, |
| • | 4321 |
| | 35 - 418 |
| | 2146 |
| | HVVCX46 HVVCX46R |
| | HVVCX46 |

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| Ser-116 to Pro-128. | Ser-8 to Ser-14, | Asn-68 to Tyr-74, | His-80 to Val-91, | Glu-141 to Phe-147, | Ala-159 to Ser-170, | Asp-184 to Gly-199. | Pro-60 to Gly-72, | Gln-89 to Ser-94, | Pro-121 to Pro-132, | Pro-146 to Pro-166. | Lys-30 to Glu-36, | Lys-55 to Tyr-68, | Ile-82 to Asp-87, | Trp-115 to Ser-125, | Pro-139 to Pro-146. | Ala-17 to Lys-23, | Leu-25 to Ala-35, | Gln-71 to Ala-76, | Tyr-79 to His-85, | Pro-112 to Gly-120, | Gly-149 to Tyr-165, | Lys-175 to His-181. | | Glu-179 to Ala-184. | | | | |
| | 4322 | | | | | | 4323 | | | | 4324 | | | | | 4325 | | | | | | | 4326 | 4327 | 4328 | 4329 | | |
| | 2 - 775 | | | | | | 2-697 | | | | 1 - 588 | | | | | 3 - 620 | | | | | | | 139 - 276 | 2 - 598 | 423 - 542 | 139 - 291 | | |
| | 2147 | | | | · | | 2148 | | | | 2149 | | | | | 2150 | | | | | | | 2151 | 2152 | 2153 | 2154 | | |
| | HVVCY29R | | | | | | HVVCY55R | | | | HVVCY60R | | | | | HVVCY62R | | | | | | | HVVCY75R | HVVCY77R | HVVCZ18 HVVCZ18R | HVVCZ50 HVVCZ50R | | |
| | HVVCY29 | | | | | | HVVCY55 | | | | HVVCY60 | | | · | | HVVCY62 | | | | | | | HVVCY75 | HVVCY77 | HVVCZ18 | HVVCZ50 | | |

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| S0212: 5, S0045: 5, | H0411: 5, H0486: 4, | S0003: 4, S0210: 4, | H0672: 4, L0731: 4, | S0192: 4, S0418: 3, | S0046: 3, H0169: 3, | L0649: 3, S0040: 2, | H0671: 2, H0662: 2, | S0358: 2, S0376: 2, | S0132: 2, H0635: 2, | H0098: 2, H0544: 2, | H0546: 2, H0545: 2, | H0242: 2, H0015: 2, | S0250: 2, H0551: 2, | H0268: 2, H0494: 2, | L0659: 2, L0517: 2, | L0809: 2, H0689: 2, | S0028: 2, H0506: 2, | H0170: 1, H0171: 1, | H0295: 1, H0661: 1, | H0639: 1, H0574: 1, | H0599: 1, L0022: 1, | H0108: 1, H0042: 1, | H0004: 1, H0044: 1, | H0355: 1, H0510: 1, | H0266: 1, S0318: 1, | S0316: 1, S0022: 1, | H0328: 1, H0039: 1, | H0622: 1, H0634: 1, | H0488: 1, H0623: 1, |
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| L0564: 1, H0509: 1, | L0653: 1, H0144: 1, | S0374: 1, L0565: 1, | H0670: 1, S0380: 1, | H0518: 1, H0555: 1, | L0748: 1, L0740: 1, | L0751: 1, L0754: 1, | L0749: 1, L0777: 1, | L0362: 1 and S0196: 1. | L0777: 17, L0439: 13, | L0731: 9, H0521: 8, | S0003: 5, H0547: 5, | L0759: 5, L0803: 4, | L0748: 4, L0750: 4, | L0752: 4, L0351: 3, | H0560: 3, L0751: 3, | L0749: 3, L0757: 3, | H0543: 3, S0134: 2, | L0415: 2, S0116: 2, | S0358: 2, S0376: 2, | H0318: 2, H0581: 2, | H0421: 2, H0328: 2, | H0090: 2, L0646: 2, | L0662: 2, L0768: 2, | L0766: 2, S0328: 2, | H0215: 2, S0406: 2, | L0744: 2, L0608: 2, | S0192: 2, H0170: 1, | H0171: 1, H0556: 1, |
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| H0222: 1, H0713: 1, | .0420: 1, H0661: 1, | H0663: 1, S0360: 1, | 0410: 1, H0580: 1, | 0007: 1, H0619: 1, | 10351: 1, S6022: 1, | H0587: 1, H0013: 1, | 10427: 1, H0097: 1, | H0052: 1, T0110: 1, | 10231: 1, L0471: 1, | H0266: 1, H0687: 1, | S0250: 1, S0214: 1, | H0428: 1, T0023: 1, | 10628: 1, H0551: 1, | H0412: 1, H0494: 1, | 10366: 1, S0352: 1, | S0440: 1, H0633: 1, | H0646: 1, H0538: 1, | S0422: 1, S0426: 1, | L0369: 1, L0500: 1, | 0770: 1, L0637: 1, | 0642: 1, L0764: 1, | .0381: 1, L0774: 1, | .0775: 1, L0375: 1, | .0806: 1, L0805: 1, | L0654: 1, L0659: 1, | L0783: 1, L0666: 1, | .0664: 1, L0665: 1, | S0374: 1, S0148: 1, | H0520: 1, H0519: 1, |
| | 7 | <u> </u> | <u> </u> | <u>S</u> | H | <u>H</u> | H | H | H | H | <u>S</u> | H | H | <u> </u> | H | <u>.</u> | <u> </u> | <u>x</u> | 7 | <u> </u> | 7 | I | <u> </u> | <u> </u> | 7 | 7 | <u> </u> | S | Н |
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| H0593: 1, S0126: 1, H0660: 1, H0648: 1, H0672: 1, S0330: 1, H0539: 1, S0152: 1, S0037: 1, L0747: 1, L0605: 1, S0011: 1, H0423: 1, H0422: 1 and H0506: 1. | | | | L0742: 10, H0144: 6, | H0265: 5, S0116: 4, | S0046: 4, S0222: 4, | H0556: 3, H0250: 3, | H0052: 3, S0027: 3, | L0595: 3, S0212: 2, | H0306: 2, S0358: 2, | H0013: 2, H0618: 2, | H0124: 2, H0100: 2, | S0053: 2, H0660: 2, | S0330: 2, S3012: 2, | L0748: 2, L0439: 2, | L0745: 2, L0757: 2, | H0445: 2, S0342: 1, | H0484: 1, H0638: 1, | S0007: 1, H0393: 1, | H0437: 1, H0549: 1, | H0438: 1, H0486: 1, | H0253: 1, H0390: 1, |
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| | 4331 | 4332 | 4333 | 4334 | | - | | - | | | | | | | | | | | | | | i e |
| | 2 - 580 | 3 - 545 | 3 - 446 | 1 - 390 | | | | | | | | - | | | | | | | | | , | |
| | 2156 | 2157 | 2158 | 2159 | | | | | | | | | | | | | | | | | | |
| | HVVDH44 HVVDH44R | HVVDM23R | HVVDM31 HVVDM31R | HVVDM45 HVVDM45R | | | | | | | | | | | | | | | | | | |
| | HVVDH44 | HVVDM23 | HVVDM31 | HVVDM45 | | | | | | | - | | | | | | | | | | | |

| H0544: 1, H0046: 1, H0009: 1, H0023: 1, N0007: 1, T0010: 1, H0188: 1, H0687: 1, S0003: 1, H0630: 1, S0364: 1, L0455: 1, S0366: 1, H0030: 1, H00412: 1, H0059: 1, S0038: 1, H0130: 1, H0641: 1, S0142: 1, S0002: 1, H0517: 1, L0794: 1, L0771: 1, L0794: 1, L0566: 1, L0775: 1, L0654: 1, H0655: 1, H0658: 1, H0652: 1, H0658: 1, H0672: 1, H0651: 1, H0672: 1, H0653: 1, H0672: 1, H0653: 1, H0672: 1, H0653: 1, H0672: 1, H0653: 1, | S0276: 1, S0196: 1, H0542: 1, H0423: 1 and H0506: 1 | | L0766: 9, L0665: 7, | L0662: 4, L0776: 4, |
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| | | 4335 | 4336 | |
| | | 2 - 241 | 204 - 524 | |
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| · | | HVVDM53R | HVVDM83 HVVDM83R | |
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| 7: 3, | 57: 3, | 0:3, | 0: 3, | 9: 2, | 4: 2, | L0664: 2, L0756: 2, | 7: 2, | 13: 2, | 2: 1, | 0: 1, | 6: 1, | 54: 1, | 0: 1, | 8: 1, | 7: 1, | 4: 1, | 6: 1, | 53: 1, | 24: 1, | 0: 1, | 25: 1, | 4: 1, | 1: 1, | 8: 1, | 4: 1, | 7: 1, | 9: 1, | 2: 1, | 59: 1, |
| S0418: 3, S0007: 3, | H0559: 3, H0457: 3, | H0617: 3, L0800: 3, | L075 | H0309: 2, L0769: 2, | L079 | L075 | L077 | H054 | S040 | S0114: 1, H0650: 1 | H0656: 1, S0116: 1 | H0484: 1, H0254: 1 | H0255: 1, S0420: 1 | S0354: 1, S0358: | H0676: 1, L0717: 1 | H061 | L0622: 1, H0486: 1, | H0069: 1, H0253: 1 | H0581: 1, H0024: 1 | H0051: 1, H0100: | H0494: 1, H0625: | H0561: 1, S0144: | L077 | .0773: 1, L0768: | I, L0774: | 1, L0657: 1 | L0789: | .0790: 1, L0792: | H0684: 1, H0659: 1 |
| 18: 3, | 59: 3, | 17:3, | 51: 3, | 09: 2 | 67:2, | 64: 2, | 79: 2, | 58: 2, | 56: 1, | 14: 1, | 56: 1, | 84: 1, | 55: 1, | 54: 1, | 76: 1, | 22: 1, | 22: 1, | 69: 1, | 81: 1, | 51: 1, | 94: 1, | 61: 1, | 74: 1, | 73: 1, | .0387: 1, | .0653: 1, | .0384: 1, I | 90: 1, | 84: 1, |
| S04 | H05 | H06 | 107 | H03 | <u>8</u> | 907 | 707 | 107 | H05 | S 01 | H06 | H04 | H02 | S03 | H06 | S02 | 106 | H00 | H05 | H00 | H04 | H05 | 103 | L07 | L03 | 200 | 1703 | 1.07 | H06 |
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| H0670: 1, H0672: 1, H0521: 1, S0027: 1, L0741: 1, L0754: 1, L0749: 1, L0780: 1, H0422: 1 and H0352: 1. | | | | | H0551: 9, L0662: 9, | L0471: 8, L0754: 7, | L0766: 6, L0666: 6, | S0358: 5, L0663: 5, | L0750: 5, L0779: 5, | S0007: 4, H0373: 4, | L0770: 4, L0803: 4, | L0777: 4, L0752: 4, | L0757: 4, L0758: 4, | S0114: 3, S0212: 3, | H0673: 3, H0412: 3, | L0769: 3, L0805: 3, | L0776: 3, L0809: 3, | S0126: 3, L0740: 3, | H0506: 3, H0657: 2, | S0116: 2, S0356: 2, | S0360: 2, H0411: 2, | H0390: 2, H0318: 2, | S0214: 2, H0644: 2, | H0617: 2, H0494: 2, |
| | Asp-50 to Gly-55. | | Lys-24 to Glu-34, | Pro-47 to Arg-56, Tyr-77 to Pro-90. | Lys-12 to Thr-18, | Glu-20 to Lys-26, | Lys-83 to Lys-90. | | | | | | | | | | | | | | | | | |
| | 4337 | 4338 | 4339 | | 4340 | | | | - | | | | | | | | | | | | | | | |
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| | 2162 | 2163 | 2164 | | 2165 | | | | | | | | | | | | | | | | | | | |
| | | HVVDN77R | HVVDP70R | | HVVDO46 HVVDO46R | , | | | | | | | | | | | | | | | | | | |
| | HVVDN29 | HVVDN77 | HVVDP70 | | HVVDO46 | , | | | | | | | | | | | | | | | | | | |

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| L0761: 2, L0773: 2, | L0649: 2, L0774: 2, | L0653: 2, L0529: 2, | H0435: 2, L0749: 2, | L0731: 2, L0588: 2, | L0608: 2, S0026: 2, | H0543: 2, H0294: 1, | H0650: 1, H0341: 1, | S0354: 1, S0376: 1, | H0580: 1, H0339: 1, | H0208: 1, S0132: 1, | H0640: 1, H0369: 1, | H0438: 1, H0574: 1, | H0486: 1, H0101: 1, | H0427: 1, H0097: 1, | H0575: 1, H0037: 1, | H0230: 1, H0052: 1, | L0040: 1, H0544: 1, | H0545: 1, H0086: 1, | H0009: 1, S0024: 1, | H0510: 1, S0250: 1, | H0428: 1, H0166: 1, | H0102: 1, H0560: 1, | S0294: 1, H0509: 1, | S0150: 1, H0633: 1, | H0647: 1, L0631: 1, | L0646: 1, L0764: 1, | L0804: 1, L0806: 1, | L0606: 1, L0657: 1, | L0659: 1, L0636: 1, |
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| L0783: 1, L0382: 1, L0789: 1, L0664: 1, L0665: 1, H0593: 1, H0690: 1, H0682: 1, H0684: 1, H0648: 1, H0672: 1, H0539: 1, H0521: 1, H0555: 1, L0748: 1, L0748: 1, L0747: 1, L0748: 1, | H0445: 1, H0343: 1, L0581: 1, H0653: 1 and H0352: 1. | H0521: 7, H0052: 6, H0622: 5, L0646: 5, | H0617: 4, L0662: 4, L0659: 4, H0556: 3, | H0341: 3, H0484: 3, S0358: 3, H0580: 3, | H0551: 3, L0369: 3, L0657: 3, L0664: 3, |)670: 3, S0328: 3, | H0583: 2, S0212: 2, | S03/6: 2, S000/: 2, S0045: 2, S0046: 2, | S0132: 2, H0438: 2, | H0586: 2, H0486: 2, | H0618: 2, S0474: 2, | \$0049: 2, H0545: 2, |
| | | H H | TC H |)H | <u> </u> |)H | H | <u> </u> |)S | H | <u>H</u> | SC |
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| | | HVVDQ49 | | | | | | | | | | |

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| 10494: 2, | 10647: 2, | 0645: 2, | 0666: 2, | 10520: 2, | 10658: 2, | 0406: 2, | 0439: 2, | 0754: 2, | 0758: 2, | 0596: 2, | 0595: 2, | 6024: 1, | 10657: 1, | ,0415: 1, | 10671: 1, | 0354: 1, | 0410: 1, | 0476: 1, | 0549: 1, | 1, H0370: 1, | 10497: 1, | H0257: 1, | [0457: 1, | H0123: 1, | l, H0071: 1, | 1, H0290: 1, | H0428: 1, | 1, S0036: 1, | H0087: 1, |
| H0268: 2, H0494: 2, | H0509: 2, H0647: 2, | L5565: 2, L0645: 2, | L0764: 2, L | L0665: 2, H | H0689: 2, H0658: 2, | S0152: 2, S0406: 2, | S3014: 2, L | L0751: 2, L | L0750: 2, L | S0434: 2, L0596: 2, | L0581: 2, L | L0601: 2, S | H0294: 1, F | H0656: 1, L | H0669: 1, H0671: 1 | S0356: 1, S | S0360: 1, S0410: 1, | H0340: 1, S | S0278: 1, H | H0550: 1, F | H0587: 1, E | H0643: 1, E | H0318: 1, H0457: | H0041: 1, E | H0024: 1, E | H0375: 1, E | H0292: 1, F | L0142: 1, S | H0063: 1, F |
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| H0264: 1, H0059: 1, | H0100: 1, S0448: 1, | S0450: 1, S0440: 1, | H0646: 1, S0144: 1, | S0002: 1, L0762: 1, | L0640: 1, L0639: 1, | L0637: 1, L0372: 1, | L0643: 1, L0771: 1, | L0773: 1, L0648: 1, | | L0775: 1, L0375: 1, | L0376: 1, L0378: 1, | L0776: 1, L0782: 1, | L0383: 1, L0791: 1, | H0693: 1, H0547: 1, | H0519: 1, H0435: 1, | H0660: 1, H0672: 1, | \$0330: 1, H0696: 1, | H0134: 1, H0478: 1, | S0028: 1, L0743: 1, | L0745: 1, L0747: 1, | L0749: 1, L0731: 1, | S0436: 1, L0593: 1, | H0667: 1, H0543: 1, | H0423: 1 and H0352: 1 | | AR104: 17, AR089: | 10, AR096: 10, AR061: | 8, AR060: 4, AR055: |
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| 4 | S0412: 22, L0662: 19, | S0222: 9, S6028: 9, | L0750: 9, T0010: 8, | L0659: 8, L0747: 8, | L0756: 8, L0663: 7, | L0439: 7, H0051: 6, | L0518: 6, L0754: 6, | L0752: 6, S0280: 5, | H0575: 5, S0358: 4, | S0346: 4, L0753: 4, | H0170: 3, H0662: 3, | S0360: 3, H0427: 3, | L0471: 3, H0373: 3, | L0638: 3, L0637: 3, | L0764: 3, L0774: 3, | L0809: 3, L0666: 3, | S0310: 3, H0672: 3, | H0696: 3, L0731: 3, | H0506: 3, H0713: 2, | S0408: 2, H0411: 2, | H0455: 2, H0574: 2, | S0414: 2, H0486: 2, | H0036: 2, S0049: 2, | H0052: 2, H0327: 2, | H0687: 2, H0428: 2, | H0553: 2, H0644: 2, | H0038: 2, L0520: 2, |
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| | 4344 | | | | | | | | | | | | | • | | | | | | | | | | | | | |
| | 2 - 640 | | | | | | | | | | | · | | | | | | | | | | | • | | | | |
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| | HVVDS35R | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HVVDS35 | | | | | | | | | | | | | | | | | | | | | | | | | | |

|): 2, | 7: 2, | .1, | 3: 1, | .1, | 1:1, | i: 1, | . 1, <u> </u> | . 1, | i. 1, | | 2: 1, | 9: 1, | 0: 1, | 9: 1, | 3: 1, | 3: 1, |): 1, | : 1, | 8: 1, | 9: 1, | 1: 1, | 9: 1, | : 1, | 3: 1, |): 1, | 0: 1, |): 1, |): 1, <u> </u> |): 1, |
|---------------------|---------------------|---------------------|-----------------|-------------------|----------------|-----------------|-----------------|--------------------|-----------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------|-----------------|--------------------|----------------|----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|-----------------|---------------------|
| L0762: 2, L0770: 2, | L0653: 2, L0517: 2, | S0044: 2, L0442: 1, | H0583: 1, L044; | \$0110: 1, \$0282 | S0400: 1, H066 | S0348: 1, S0356 | S0444: 1, H0329 | S0007: 1, H0619: 1 | S6026: 1, S0300 | L0717: 1, S6022: 1 | H0550: 1, H059 | H0587: 1, H059 | H0042: 1, H059 | H0318: 1, H030 | H0545: 1, H056 | H0564: 1, H012 | H0019: 1, S0050: 1, | L0163: 1, S0388 | H0356: 1, H0328: 1 | H0688: 1, H003 | T0023: 1, H003 | H0111: 1, H016 | S0364: 1, L0455 | H0135: 1, H016 | T0067: 1, T0069 | T0004: 1, H010 | S0112: 1, L0370 | L0598: 1, L0769 | L0630: 1, L0800: 1, |
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| L0648: 1, L0363: 1, L0768: 1, L0649: 1, L0803: 1, L0775: 1, L0375: 1, L0651: 1, L0805: 1, L0776: 1, L0627: 1, L0776: 1, L0635: 1, L0778: 1, L0635: 1, L0783: 1, L0664: 1, H0691: 1, H0693: 1, H0691: 1, H0693: 1, H0691: 1, H0693: 1, L0748: 1, L0743: 1, L0748: 1, L0779: 1, L0748: 1, L0779: 1, L0748: 1, L0779: 1, L0748: 1, L0779: 1, L0748: 1, L0689: 1, S0434: 1, L0604: 1, L0366: 1, S0106: 1 and S0021: 1. | |
|---|-------------------|
| | Thr-35 to Asn-41. |
| | 4345 |
| | 231 - 353 |
| | 2170 |
| | HVVDT25 HVVDT25R |
| | HVVDT25 |

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L0748: 11, L0758: 10, | L0747: 8, L0439: 7, | H0144: 6, L0805: 5, | L0662: 4, H0341: 3, | H0052: 3, L0794: 3, | L0803: 3, L0809: 3, | H0672: 3, L0741: 3, | L0752: 3, H0619: 2, | S0222: 2, H0013: 2, | H0014: 2, H0266: 2, | H0553: 2, L0455: 2, | H0591: 2, L0770: 2, | L0646: 2, L0764: 2, | L0666: 2, L0665: 2, | H0547: 2, S0126: 2, | L0596: 2, L0589: 2, | L0605: 2, H0543: 2, | H0423: 2, H0624: 1, | H0556: 1, H0686: 1, | S0040: 1, H0717: 1, | H0671: 1, S0476: 1, | L0717: 1, H0411: 1, | H0586: 1, H0333: 1, | H0574: 1, L0021: 1, | H0575: 1, H0618: 1, | S0010: 1, H0318: 1, | H0544: 1, H0009: 1, | H0050: 1, L0471: 1, | L0163: 1, S6028: 1, |
| | Glu-11 to Arg-17, | Arg-66 to Pro-79, | Ser-104 to Gln-112, | Ser-116 to Ser-125. | | | | • | | | | | | | | | | | | | | | | | | | | | |
| 4346 | 4347 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 - 471 | 2 - 460 | | | | | | | | | | • | | | | | | | | | | | | | | | | | | |
| 2171 | 2172 | | | | | | | | | | | | | | | | | | | | | | | | • | | | | |
| HVVDT29R | HVVDT44 HVVDT44R | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HVVDT29 | HVVDT44 | , | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| S0022: 1, S0214: 1, H0628: 1, L0456: 1, S0366: 1, S0036: 1, H0090: 1, H0038: 1, H0040: 1, H0551: 1, H0264: 1, H0059: 1, S0112: 1, T0041: 1, H0647: 1, H0652: 1, S0426: 1, L0763: 1, | L0638: 1, L0796: 1, L0630: 1, L0768: 1, L0649: 1, L0774: 1, L0378: 1, L0653: 1, L0783: 1, L0647: 1, L0791: 1, L0647: 1, L0791: 1, L0647: 1, H0696: 1, S0406: 1, H0555: 1, H0627: 1, L0744: 1, L0754: 1, L0746: 1, L0754: 1, L0768: 1, L0754: 1, L0608: 1, L0594: 1, S0026: 1, H0665: 1, H0136: 1, H0216: 1 and H0422: 1. | H0672: 2 and S6028: 1. |
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| X 在 X 语 在 A X A X | | Asn-1 to Leu-6. |
| | | 4348 |
| | | 328 - 600 |
| | | 2173 |
| · | | HVVDU49R |
| | | HVVDU49 |

| | | | | | | L0766: 3, H0651: 2, H0686: 1, H0656: 1, S0358: 1, L0773: 1, L0775: 1, L0657: 1, L0809: 1, L0792: 1 and L0731: 1. | S0152: 7, L0601: 4, H0013: 3, H0551: 3, H0264: 3, H0521: 3, S0046: 2, H0050: 2, H0266: 2, S0022: 2, H0031: 2, H0644: 2, H0494: 2, H0519: 2, H0556: 1, S0040: 1, T0049: 1, S0001: 1, S0356: 1, S0354: 1, S0376: 1, S045: 1, |
|------------------|------------------|------------------|-----------|------------------|------------------|---|--|
| | Ser-1 to Pro-9. | | | | | | Lys-1 to Asp-8, Lys-41 to Gln-50. |
| 4349 | 4350 | 4351 | 4352 | 4353 | 4354 | 4355 | 4356 |
| 3 - 266 | 2 - 502 | 294 - 455 | 14 - 511. | 2 - 391 | 11 - 178 | 167 - 343 | 3 - 197 |
| 2174 | 2175 | 2176 | 2177 | 2178 | 2179 | 2180 | 2181 |
| HVVDW02 HVVDW02R | HVVDW61 HVVDW61R | HVVDX40 HVVDX40R | HVVDX90R | HWHHD07 HWHHD07R | HWLAC51 HWLAC51R | HWLJR51R | HWLME48 HWLME48R |
| HVVDW02 | HVVDW61 | HVVDX40 | HVVDX90 | HWHHD07 | HWLAC51 | HWLJR51 | HWLME48 |

| H0550: 1, H0486: 1, T0039: 1, T0040: 1, S0280: 1, H0042: 1, H0575: 1, T0082: 1, H0421: 1, L0471: 1, H0373: 1, H0051: 1, H0355: 1, H0615: 1, H0622: 1, L0483: 1, S0364: 1, H0591: 1, H0268: 1, H0561: 1, L0649: 1, L0538: 1, L0659: 1, S0428: 1, L0658: 1, S0434: 1, L0758: 1, S0434: 1, L0758: 1, S0434: 1, | | | | |
|--|------------------|---------------------------------------|--|-------------------|
| | | Cys-6 to Ser-12, Gln-27 to Glu-32, | Arg-52 to Arg-67, Asp-140 to Asp- 145. | Thr-26 to Ile-34. |
| | 4357 | 4358 | | 4359 |
| | 209 - 373 | 1 - 435 | | 43 - 210 |
| | 2182 | 2183 | | 2184 |
| | HWLVY65 HWLVY65R | HWMIB35R | | HWNFO25 HWNFO25R |
| | HWLVY65 | HWMIB35 | | HWNF025 |

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| | HW |

[0040] The first column in Table 1 provides a unique "Clone ID NO:Z" for a cDNA clone related to each contig sequence disclosed in Table 1. This clone ID references the cDNA clone which contains at least the 5' most sequence of the assembled contig, and at least a portion of SEQ ID NO:X was determined by directly sequencing the referenced clone. The reference clone may have more sequence than described in the sequence listing or the clone may have less. In the vast majority of cases, however, the clone is believed to encode a full-length polypeptide. In the case where a clone is not full-length, a full-length cDNA can be obtained by methods known in the art and/or as described elsewhere herein.

[0041] The second column in Table 1 provides a unique "Contig ID" identification for each contig sequence. The third column provides the "SEQ ID NO:X" identifier for each of the ovarian associated contig polynucleotide sequences disclosed in Table 1. The fourth column, "ORF (From-To)", provides the location (i.e., nucleotide position numbers) within the polynucleotide sequence "SEQ ID NO:X" that delineate the preferred open reading frame (ORF) shown in the sequence listing and referenced in Table 1, column 5, as SEQ ID NO:Y. Where the nucleotide position number "To" is lower than the nucleotide position number "From", the preferred ORF is the reverse complement of the referenced polynucleotide sequence.

[0042] The fifth column in Table 1 provides the corresponding SEQ ID NO:Y for the polypeptide sequence encoded by the preferred ORF delineated in column 4. In one embodiment, the invention provides an amino acid sequence comprising, or alternatively consisting of, a polypeptide encoded by the portion of SEQ ID NO:X delineated by "ORF (From-To)". Also provided are polynucleotides encoding such amino acid sequences and the complementary strand thereto.

[0043] Column 6 in Table 1 lists residues comprising epitopes contained in the polypeptides encoded by the preferred ORF (SEQ ID NO:Y), as predicted using the algorithm of Jameson and Wolf, (1988) Comp. Appl. Biosci. 4:181-186. The Jameson-Wolf antigenic analysis was performed using the computer program PROTEAN (Version 3.11 for the Power MacIntosh, DNASTAR, Inc., 1228 South Park Street Madison, WI). In specific embodiments, polypeptides of the invention comprise, or alternatively consist of, at least one, two, three, four, five or more of the predicted epitopes as described in Table 1. It

will be appreciated that depending on the analytical criteria used to predict antigenic determinants, the exact address of the determinant may vary slightly.

Column 7 in Table 1 provides an expression profile and library code: count for each of the contig sequences (SEQ ID NO:X) disclosed in Table 1, which can routinely be combined with the information provided in Table 4 and used to determine the normal or diseased tissues, cells, and/or cell line libraries which predominantly express the polynucleotides of the invention. The first number in column 7 (preceding the colon). represents the tissue/cell source identifier code corresponding to the code and description provided in Table 4. For those identifier codes in which the first two letters are not "AR". the second number in column 7 (following the colon) represents the number of times a sequence corresponding to the reference polynucleotide sequence was identified in the tissue/cell source. Those tissue/cell source identifier codes in which the first two letters are "AR" designate information generated using DNA array technology. Utilizing this technology, cDNAs were amplified by PCR and then transferred, in duplicate, onto the array. Gene expression was assayed through hybridization of first strand cDNA probes to the DNA array. cDNA probes were generated from total RNA extracted from a variety of different tissues and cell lines. Probe synthesis was performed in the presence of ³³P dCTP, using oligo(dT) to prime reverse transcription. After hybridization, high stringency washing conditions were employed to remove non-specific hybrids from the array. The remaining signal, emanating from each gene target, was measured using a Phosphorimager. Gene expression was reported as Phosphor Stimulating Luminescence (PSL) which reflects the level of phosphor signal generated from the probe hybridized to each of the gene targets represented on the array. A local background signal subtraction was performed before the total signal generated from each array was used to normalize gene expression between the different hybridizations. The value presented after "[array code]:" represents the mean of the duplicate values, following background subtraction and probe normalization. One of skill in the art could routinely use this information to identify normal and/or diseased tissue(s) which show a predominant expression pattern of the corresponding polynucleotide of the invention or to identify polynucleotides which show predominant and/or specific tissue and/or cell expression. The sequences disclosed herein have been determined to be

predominantly expressed in ovarian tissues, including normal and diseased ovarian tissues (See Table 1, column 7 and Table 4).

[0045] Column 8 in Table 1 provides a chromosomal map location for certain polynucleotides of the invention. Chromosomal location was determined by finding exact matches to EST and cDNA sequences contained in the NCBI (National Center for Biotechnology Information) UniGene database. Each sequence in the UniGene database is assigned to a "cluster"; all of the ESTs, cDNAs, and STSs in a cluster are believed to be derived from a single gene. Chromosomal mapping data is often available for one or more sequence(s) in a UniGene cluster; this data (if consistent) is then applied to the cluster as a whole. Thus, it is possible to infer the chromosomal location of a new polynucleotide sequence by determining its identity with a mapped UniGene cluster.

[0046] A modified version of the computer program BLASTN (Altshul et al., J. Mol. Biol. 215:403-410 (1990), and Gish et al., Nat. Genet. 3:266-272 (1993)) was used to search the UniGene database for EST or cDNA sequences that contain exact or near-exact matches to a polynucleotide sequence of the invention (the 'Query'). A sequence from the UniGene database (the 'Subject') was said to be an exact match if it contained a segment of 50 nucleotides in length such that 48 of those nucleotides were in the same order as found in the Query sequence. If all of the matches that met this criteria were in the same UniGene cluster, and mapping data was available for this cluster, it is indicated in Table 1 under the heading "Cytologic Band". Where a cluster had been further localized to a distinct cytologic band, that band is disclosed; where no banding information was available, but the gene had been localized to a single chromosome, the chromosome is disclosed.

[0047] Once a presumptive chromosomal location was determined for a polynucleotide of the invention, an associated disease locus was identified by comparison with a database of diseases which have been experimentally associated with genetic loci. The database used was the Morbid Map, derived from OMIMTM (supra). If the putative chromosomal location of a polynucleotide of the invention (Query sequence) was associated with a disease in the Morbid Map database, an OMIM reference identification number was noted in column 9, Table 1, labeled "OMIM Disease Reference(s)". Table 5 is a key to the OMIM reference identification numbers (column 1), and provides a description of the associated disease in Column 2.

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| Clone ID NO:Z | Contig ID: | SEQ NO:- | Analysis Method | PFam/NR Description | PFam/NR Accession Number | Score/ Percent Identity | NT From | NT To |
|------------------|------------|-------------|--------------------|---|-------------------------------|-------------------------------|--------------|-------|
| НОУСДЗ4 | 396327 | 111 | blastx.2 | (AK000844) unnamed protein product [Homo sapiens] | dbj BAA91396.1 | %85 | 319 | 167 |
| HEBGD58 | 498281 | 12 | blastx.2 | eggshell protein - fluke (Schistosoma haematobium) (subclone 1 | pir A44805 A44805 | 74% | 3 | 86 |
| HETCD42 | 533532 | 13 | blastx.2 | actin capping protein alpha subunit [Homo sapiens] | gb AAA88848.1 | 100% | 06 | 947 |
| HTXKC18 | 535854 | 14 | blastx.2 | (AK000496) unnamed protein product [Homo sapiens] | dbj BAA91205.1 | %29 | 873 | 919 |
| HLDRK20 | 553765 | 15 | blastx.2 | complement factor B [Homo sapiens] | emb CAA51389.1 | %16 | 150 | 1283 |
| H2MBD33 | 558474 | 16 | blastx.2 | NBR2 PROTEIN (NEXT TO BRCA1 GENE 2 PROTEIN). | sp 015453 NBR2_H UMAN | 100% | 138 | 290 |
| HSYBX61 | 558708 | 17 | blastx.2 | N-cadherin [Homo sapiens] | gb AAA03236.1 | %86 | 3 | 515 |
| HELHC03 | 562745 | 18 | blastx.2 | (AF118082) PRO1902 [Homo sapiens] | gb AAF22026.1 AF1 18094_21 | 67% 81% | 1063 1154 | 905 |
| HOFMP70 | 585385 | 19 | blastx.2 | precursor polypeptide | emb CAA33261.1 | 75% | 120 | 347 |

| | 989 | | 687 | 746 | , | 466 | 498 | 393 | | 434 | 434 | 431 | 434 | 431 | 431 | 431 | 431 | 431 | 431 | 431 | 431 | 431 | 431 | 431 | 434 | 431 | 431 | 431 |
|-----------------------|-----------------------------|----------------|--------------------|------------------------|--------------|--------------------|------------------------|------------------|----------------|---------------------|-----------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------------------------------|-----|-----|-----|-----|-----|-----|
| | 522 | | 42 | 681 | | 7 | 463 | 133 | | 117 | 192 | 189 | 12 | 192 | 195 | 192 | 156 | 189 | 156 | 195 | 195 | 192 | 15 | 192 | 195 | 192 | 15 | 195 |
| | 63% | | %66 | %06 | | 100% | 91% | 100% | | 100% | 20% | 51% | 40% | 51% | 52% | 53% | 47% | 54% | 46% | 52% | 47% | 48% | 38% | 48% | 20% | 46% | 37% | 46% |
| | gb AAA88038.1 | | gb AAA59491.1 | | | gb AAD34121.1 AF1 | 51884_1 | gb AAD02337.1 | | gb AAC33512.1 | | | | | | | | | | | | | | | | | | |
| (AA -21 to 782) [Homo | saptens) unknown protein | [Homo sapiens] | leukocyte adhesion | glycoprotein precursor | Homo sapiens | (AF151884) CGI-126 | protein [Homo sapiens] | (AF044671) MIM46 | [Homo sapiens] | (AF019406) collagen | type IX alpha 2 chain | [Homo sapiens] | | | | | | | | | | | | | | | | |
| | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | | | | | | | | | | | · · · · · · · · · · · · · · · · · · · | | | | | : | |
| | 20 | | 21 | | | 77 | | 23 | | . 24 | | | | | | | | | | | | | | | | | | |
| | 585675 | | 588869 | | | 638220 | | 654868 | | 704405 | | | | | | | | | | | | | | | | | | |
| | HSKNZ25 | | HDPFK39 | | | HL1AB07 | | HHGAS83 | | HTSGU37 | | | | | | | | | | | | | | | | | | |

| 431 | 431 | 431 | 431 | 431 | 431 | 434 | 425 | 461 | 434 | 413 | 395 | 365 | 431 | 347 | 205 | 490 | 481 | 472 | 481 | 481 | 481 | 481 | 481 | 205 | 487 | 457 | 432 | 218 | 133 |
|-----|-----|-----|-----|-----|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 195 | 201 | 24 | 189 | 189 | 180 | 195 | 192 | 195 | 195 | 195 | 45 | 192 | 195 | 192 | 395 | 395 | 383 | 401 | 401 | 383 | 395 | 383 | 383 | 380 | 422 | 419 | 331 | 430 | 249 |
| 48% | 20% | 37% | 48% | 48% | 44% | 46% | 43% | 40% | 43% | 48% | 34% | 44% | 36% | 47% | 47% | 26% | 44% | 25% | 46% | 38% | 43% | 40% | 38% | 33% | 47% | 61% | 73% | 25% | 37% |
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| 100 | 418 | 421 | 199 | 563 | | | | | 280 | 1007 | 547 | 1008 | 1008 | 846 | 232 | 70 | 627 | 367 | 440 | 497 | 778 | |
|-----|-----|-----|---|-----------------|------------------|--------------------|---------------------|---------------------------------|-----------------|---------------------|--------------|---------|------|-----|-----------------|----------------|-----|------------------------|-------------------------------------|--------------------|---------------------------------|------|
| 240 | 471 | 501 | 14 | 402 | | | | | 101 | 585 | 149 | 619 | 619 | 775 | 969 | 229 | 905 | 122 | 348 | 12 | 200 | |
| 38% | 20% | 32% | %49 | %28 | | | | | %56 | %76 | 51% | 35% | 32% | 38% | %£L | 412% | 93% | %68 | %02 | %18 | %98 | |
| | | | emb CAB42187.1 | emb CAA57432.1 | | | | | emb CAA90511.1 | | | | | | gb AAA88038.1 | | | gb AAC78561.1 | | emb CAA45263.1 | | |
| | | | unnamed protein product [unidentified] | fusion protein: | ubiquitin (bases | 43_513); ribosomal | protein S27a (bases | 217_532) [Rattus norvegicus] | tyrosine kinase | activator protein 1 | (TKA-1) Homo | sapiens | | | unknown protein | [Homo sapiens] | | (AF046001) zinc finger | transcription factor [Homo sapiens] | cytochrome oxidase | subunit III [Phoca vitulina] | |
| | | | blastx.2 | blastx.2 | | | | | blastx.2 | | | | | | blastx.2 | | | blastx.2 | | blastx.2 | | |
| | | | 25 | 26 | | | | | 27 | | | | | | 28 | | | 29 | | 30 | | |
| | | | 705692 | 711500 | | | | | 732342 | | | | | | 745343 | | | 746416 | | 762806 | | |
| | | | H2LAN34 | HPMBZ40 | | | | | HLYEP52 | | | | | | HTTEC47 | | | HOFMO90 | | HCHIND34 | | |

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|---------|--------|----|----------|---------------------------------------|-------------------|------|-------------------|------|
| | | | | · | | | | |
| HAMGI86 | 785328 | 31 | blastx.2 | unnamed protein | emb CAB42212.1 | 91% | 424 | 609 |
| | | | | product unidentified | | 74% | 011 | /00 |
| HLWCN67 | 794213 | 32 | blastx.2 | (AK014485) putative | dbj BAB29387.1 | %08 | 386 | 631 |
| | | | | INIUS musculus | | | | |
| HOFAC09 | 806819 | 33 | blastx.2 | acidic ribosomal | gb AAA36470.1 | 87% | 42 | 812 |
| | | | | phosphoprotein (P0) [Homo sapiens] | | 52% | \$ | 55 |
| HRDEL61 | 824886 | 34 | blastx.2 | X-linked retinopathy | gb AAB26149.1 | %19 | 808 | 632 |
| | | | | protein [C-terminal, | | 45% | 644 | 276 |
| | • | | | clone XEH.8c] [human, | | | | |
| | | | | Peptide Partial, 100 aa] | | | | |
| | , | | | [Homo sapiens] | | | | |
| HDPOR60 | 828176 | 35 | blastx.2 | (AF151799) CGI-40 | gb AAD34036.1 AF1 | %96 | ∞ | 1867 |
| | | | | protein [Homo sapiens] | 51799_1 | 82% | 8 | 1867 |
| HPRTS71 | 828574 | 36 | blastx.2 | rTSbeta [Homo | emb CAA61761.1 | 100% | 45 | 458 |
| | | | | sapiens | | | | |
| HOHBI90 | 828862 | 37 | blastx.2 | tyrosine kinase receptor | gb AAA61243.1 | %06 | 193 | 417 |
| | , | | | [Homo sapiens] | | 63% | 159 | 281 |
| | | | | | | 34% | 789 | 396 |
| | | | | | | 53% | 375 | 419 |
| HOHAL47 | 828872 | 38 | blastx.2 | pericentriol material 1 | gb AAA60120.1 | %88 | 328 | 879 |
| | | | | [Homo sapiens] | | | | |
| HYASE58 | 829298 | 39 | blastx.2 | O-6-methylguanine- | gb AAA59594.1 | %66 | 74 | 694 |
| | | | | DNA methyltransferase | | | | |
| | | | | [Homo sapiens] | | | | |
| HKAAH95 | 829958 | 40 | blastx.2 | ribosomal protein L22 | emb CAA55204.1 | 70% | 41 | 418 |
| | | | | | | | | |

| | 391 | 610 | 132 | 170 | 611 | 1525 | 1785 | 1255 | 1114 | 1033 | 991 | 886 | 934 | 1096 | 868 | 973 | 856 | 892 | 712 | 712 | 1150 | 973 | 946 | 907 | 991 | 289 | 589 |
|---------------------|--|------------------------|---------------------|--------------------------|------|-------------------|----------|------|------|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| | 44 | 119 | 88 | 99 | 573 | 2 | 1525 | 70 | 20 | 20 | 17 | 70 | 17 | 20 | ∞ | 7 | 14 | 70 | 17 | 70 | 365 | 70 | 413 | 11 | 2 | 70 | 17 |
| | %96 | 82% | 93% | 37% | 29% | %66 | 100% | 73% | 79% | 30% | 27% | 73% | 78% | 25% | 27% | 78% | 78% | 27% | 28% | 73% | 24% | 24% | 32% | 73% | 24% | 30% | 32% |
| | gb AAA20506.1 | gb AAB23369.1 | | | | gb AAB47488.1 AAB | 47488 | | | | | | | | | | | | | | | | | | | 3 | |
| [Rattus norvegicus] | activating transcription factor 3 [Homo sapiens] | heat shock protein 90, | hsp90 [rats, brain, | Peptide, 724 aa] [Rattus | sp.] | tenascin X [Homo | sapiens] | | | | | | | | | | | | | | | | | | | | |
| | blastx.2 | blastx.2 | | | | blastx.2 | | | | | | | | | | | | | 1 | | | | | | | ٠ | |
| | 41 | 42 | | | | 43 | | | | | | | | | | | | | | | | | | | | | |
| | 829981 | 830195 | | | | 830497 | | | | | | | | | | , | | | | | | | | | | | |
| | HTTIQ02 | HWACG9 | - | | | HUFBX52 | | | | | | | | | | | | | | | | | | | | | |

| 712 | 601 | 856 | 1111 | . 1012 | 562 | 1096 | 595 | 1135 | 1045 | 1096 | 1231 | 1141 | 1111 | 1153 | 1309 | 1135 | 1117 | 1021 | 604 | 1690 | 1096 | 1684 | 1135 | 1309 | 1684 | 877 | 331 | 1045 | 1684 |
|----------|-----|-----|------|---------------|-----|------|-----|-------------|------|------|------|------|------|------|------|------|-------------|------|-----------|------|------|------|------|------|------|-----|-----|------|------|
| 20 | 20 | 7 | 716 | 176 | 176 | 437 | 92 | 521 | 437 | 434 | 488 | 860 | 557 | 860 | 557 | 809 | 641 | 437 | 437 | 1487 | 557 | 1487 | 788 | 809 | 1487 | 638 | 35 | 455 | 1487 |
| 29% | 27% | 27% | 31% | 25% | 30% | 25% | 767 | 25% | 23% | 23% | 70% | 25% | 22% | 25% | 24% | 78% | 70% | 27% | 39% | 36% | 27% | 28% | 23% | 22% | 30% | 33% | 73% | 23% | 28% |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <u> </u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1684 | 825 | 1684 | 1690 | 1684 | 1690 | 501 | 1190 | 1150 | 1142 | 404 | 498 | 1663 | 1181 | 1181 | 1027 | 1436 | 1118 | 257 | 255 | 1083 | 1146 | 480 | 1175 | 315 | 357 | 181 | 266 | 1305 |
|------|-----|------|------|------|------|-----|------|------|------|-----|-----|------|------|------|------|------|------|-----|-----|------|------|-----|------|----------------------------|-----------------------|----------------|---------------------|-----------------------|
| 1487 | 622 | 1487 | 1556 | 1487 | 1487 | 316 | 1110 | 962 | 1101 | 267 | 52 | 1607 | 1089 | 1089 | 920 | 1398 | 1089 | 189 | 118 | 626 | 1024 | 361 | 1050 | 46 | 175 | 143 | 134 | 1018 |
| 27% | 30% | 25% | 37% | 28% | 73% | 27% | 48% | 30% | 64% | 32% | 79% | 25% | 32% | 32% | 22% | 23% | %09 | 41% | 73% | 37% | 73% | 35% | 34% | %86 | %001 | 92% | 100% | %26 |
| | | | | | | | | | | | | | | | | | | | | | | | | gb[AAA35886.1] | emb CAA28169.1 | | gb[AAD09765.1] | |
| | | | | | | | | | | | | | | | | | | | | | | | | 2A9 peptide [Homo sapiens] | precursor polypeptide | [Homo sapiens] | (AF096304) putative | sterol reductase SR-1 |
| | | | | | | | | | | | | | | | | ٠ | | | | | | | | blastx.2 | blastx.2 | | blastx.2 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 44 | 45 | | 46 | |
| | | | | | | | | | | | | | | | | | | | | | | | | 831453 | 832454 | | 833088 | |
| | | | | | | | | | | | | | | | | | | | | | | | | HWLJE49 | HLQBT44 | , | HSLGG58 | |

| 6 1029 | 7 480 8 170 | 3 353 | 4 1096 | | | | 1102 | \downarrow | 1 1/2 | 1 382 | 7 805 | | | |
|----------------|--|---|---------------------------------------|-----------------|---------------|-------------|--------------|--------------|---|------------------------------------|-----------------------------|--------------------|----------------|------------|
| 926 | 157 | 123 | 404 | 1121 | 591 | 28 | 1188 | 00 | T | 11 | 707 | 406 | 485 | 1 |
| 61% | 95% 100% | | 100% | 75% | 34% | 20% | 41% | 7,000, | 100% | 48% | %86 | 55% | %1 <u>/</u> | \$5.7 - |
| | dbj BAA21510.1 | gb AAB61158.1 | gb AAA60239.1 | gb[AAC72810.1] | | | | 1000 | gb AAC52117.1 | emb CAA90017.1 | gb AAB34132.1 | gb AAF28916.1 AF1 | 61356_1 | |
| [Homo sapiens] | (AB005624) rig-analog DNA-binding protein [Sus scrofa] | cysteine-rich intestinal protein [Homo sapiens] | quinone oxidoreductase [Homo sapiens] | (AF081114) ORF2 | [Mus musculus | domesticus] | ı | | kinesin-like motor protein KIF1C [Homo sapiens] | plasmolipin [Rattus norvegicus] | P26s4 [Cricetinae gen. sp.] | (AF161356) HSPC093 | [Homo sapiens] | |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | | , | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | |
| | 47 | 84 | 49 | 20 | | | | | 51 | 52 | 53 | 54 | | |
| | 840756 | 840862 | 841088 | 843485 | | | | | 844534 | 847355 | 847647 | 847821 | | |
| | нснвозз | HDTMK30 | HDPFX64 | HODFG71 | | | | | HCE3165 | HSAVH65 | HBXFT41 | HBMCM3 | ∞ | |

| 502 | 368 | 437 | 735 | 1610 | 316 | 691 1090 225 | 1202 | 380 | 721 536 427 |
|-----|---|--|--|---|--------------------------------------|---------------------------------|---|---|--------------------------------------|
| 534 | 3 | 225 542 | 628 | 15 | 08 | 224 647 160 | 1498 | 208 | 590 429 317 |
| 63% | 57% | 40% 35% | 97% | %66 | 100% | 94% 95% 95% | %69 | %6L | 65% 61% 67% |
| | pir JC7287 JC7287 | gb AAD48374.1 | gb AAF00037.1 | emb CAA12176.1 | gb AAD20967.1 | gb AAF04914.1 U670 85_1 | dbj BAA91131.1 | dbj BAA91205.1 | gb AAF22026.1 AF1 18094_21 |
| | G-protein coupled receptor, SREB1 - human | (AF123880) gag polyprotein [multiple sclerosis associated retrovirus element] | (AF089895) cAMP-dependent protein kinase subunit R2 beta [Oryctolagus cuniculus] | (AJ224875) glucosyltransferase [Homo sapiens] | (AF070661) HSPC005 [Homo sapiens] | TcD37 homolog [Homo sapiens] | (AK000385) unnamed protein product [Homo sapiens] | (AK000496) unnamed protein product [Homo sapiens] | (AF118082) PRO1902 [Homo sapiens] |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 55 | 99 | 27 | 28 | 59 | 09 | 61 | 62 | 63 |
| | 849064 | 859572 | 859622 | 862010 | 862481 | 863515 | 866444 | 867969 | 869701 |
| | HACB042 | HODBF86 | HOABP90 | HE8UE42 | HUSJ159 | HSSDM07 | HBCBW52 | HOGAS18 | HHSDL18 |

| 798 | 813 | 628 | 911 | 643 | 397 | 763 | 373 383 | 454 | 440 | 504 | 103 | 292 |
|--------------------|----------------|---------------------------|--------------------------------|-----------------------------|--|---|--------------------------|---|---|---|------------------------------------|--|
| 1232 | 1208 | 173 | 156 | 44 | 104 | 170 | 23 | 350 | | 4 | 207 | 65 |
| 100% | 29% | 100% | %86 | 93% | 31% | 100% | 60% | %08 | %16 | %86 | 85% | 100% |
| gb AAD34622.1 AF1 | 53191_1 | gb AAA35499.1 | emb CAA39271.1 | emb CAA75163.1 | emb CAB70840.1 | emb CAA58127.1 | dbj BAA23661.1 | gb AAC17109.1 | dbj BAA91741.1 | dbj BAA91018.1 | emb CAA59444.1 | emb CAA32763.1 |
| (AF153191) nm23-H7 | [Homo sapiens] | A4 protein [Homo sapiens] | 5'-nucleotidase [Homo sapiens] | SPIN protein [Homo sapiens] | (AL137608) hypothetical protein Homo sapiens | neutrophil gelatinase associated lipocalin [Homo sapiens] | GCP170 [Homo sapiens] | (AF064604) KE03 protein [Homo sapiens] | (AK001527) unnamed protein product [Homo sapiens] | (AK000219) unnamed protein product [Homo sapiens] | catalase [Campylobacter jejuni] | propionyl-CoA carboxylase [Homo sapiens] |
| blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 · | blastx.2 | blastx.2 |
| 65 | | 99 | <i>L</i> 9 | 89 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 |
| 874506 | | 874608 | 874787 | 874891 | 874930 | 874931 | 875093 | 875352 | 875371 | 875682 | 876052 | 876487 |
| HLDOG81 | | HTXQF81 | HCRNG90 | HPWCL64 | HWLMV6 2 | H2MAC06 | HWLRF06 | HODDD041 | нснмQ74 | HT3AI55 | HMVBD68 | HOCTA74 |

| HISET05 | 989928 | 17 | blastx.2 | (AJ270993) homeobox | emb[CAB65909.1] | 95% | 511 | 849 |
|-----------|--------|----|---|--------------------------|--------------------|------|------|------|
| | | | | protein [Homo sapiens] | - | %99 | 801 | 976 |
| HCRQM22 | 876696 | 78 | blastx.2 | hepatocyte nuclear | gb AAC51129.1 | 84% | 3 | 401 |
| | | | | factor-3/fork head | | | | |
| | | | | homolog 11B [Homo 1 | | | | |
| HLHTC92 | 877310 | 62 | blastx.2 | neuronal PAS2 [Homo | gb AAB47250.1 | %16 | 197 | 418 |
| | | | | sapiens] | | 95% | 142 | 201 |
| | | | | | | 32%. | 482 | 574 |
| H2CAA49 | 879484 | 80 | blastx.2 | (AF053651) cellular | gb AAC35297.1 | 100% | 954 | 2108 |
| | | | • | apoptosis susceptibility | | | | |
| | | | | protein [Homo sapiens] | | | | |
| HETKQ94 | 880545 | 81 | blastx.2 | (AL132954) putative | emb CAB75750.1 | 35% | 53 | 838 |
| , | | | | protein [Arabidopsis | | 23% | 1556 | 2080 |
| | | | | thaliana | | 33% | 1155 | 1298 |
| HOFM023 | 882466 | 82 | blastx.2 | (AF089745) FK506- | gb AAC78853.1 | %56 | 14 | 499 |
| | | | | binding protein [Homo | | 24% | 14 | 499 |
| | | | | sapiens] | | 46% | 14 | 454 |
| | | | | | | 52% | 194 | 499 |
| HNTNP58 | 882787 | 83 | blastx.2 | (AF118082) PRO1902 | gb AAF22026.1 AF1 | 62% | 2230 | 2391 |
| | | | | [Homo sapiens] | 18094_21 | %09 | 2382 | 2480 |
| HOFNY28 | 888480 | 84 | blastx.2 | AF-1 [Homo sapiens] | gb AAA16955.1 | 63% | 18 | 476 |
| | | | • | | , | 62% | 416 | 658 |
| HE8MQ01 | 889128 | 85 | blastx.2 | (AF118082) PRO1902 | gb AAF22026.1 AF1 | 71% | 2699 | 2490 |
| LIEOD CO1 | 801130 | 98 | blactv 2 | nentidylarolyl | emb[C & A 37030 11 | 100% | 50 | 553 |
| 170017 | 771170 | 3 | Z. C. | isomerase [Homo | 1:/20/25 70/000 | 2 | `` | 2 |
| | | | | sapiens] | | | | |
| HHENW77 | 894855 | 87 | blastx.2 | vacuolar proton- | emb CAA75571.1 | 71% | 66 | 338 |
| | | | , | ATPase subunit M9.2 | | | | |

| | | | | [Homo sapiens] | | | | |
|-----------|--------|----------|----------|---|--|-------------|------|------|
| HOFNU55 | 897344 | 88 | blastx.2 | (AP000616) similar to RING-H2 finger | dbj BAA85438.1 | %02 | 654 | 544 |
| | | • | | protein RHA1a | | : | - | |
| | | | | (AF078683) [Oryza] | | | | |
| HE8TE40 | 897862 | 68 | blastx.2 | Rabin 3 Rattus | gb AAA67890.1 | 87% | 152 | 1114 |
| | | | | norvegicus] | | 93% | 1086 | 1532 |
| HNTCH73 | 900546 | 06 | blastx.2 | bone morphogenetic | gb AAA51835.1 | 100% | 195 | 1418 |
| | | | | sapiens] | | | | |
| HHFBY53 | 902534 | 91 | blastx.2 | IDN4-GGTR14 | 8p Q9Y6Y5 Q9Y6Y5 | %56 | 9 | 128 |
| | | | | PROTEIN. | | 22% | 837 | 956 |
| | | | | | | 70% | 801 | 932 |
| | | | | | | 75% | 833 | 940 |
| | | | | | | 70% | 836 | 955 |
| HDPIE44 | 904763 | 92 | blastx.2 | (AF200706) UNC-84A | gb AAF15883.1 AF2 | <i>%L</i> 7 | 1852 | 2418 |
| | | | | [Caenorhabditis | 00706_1 | 39% | 170 | 313 |
| | | | | elegans | ! | 25% | 1375 | 1524 |
| | | | | | | 42% | 109 | 171 |
| HHSAX10 | 904783 | 93 | blastx.2 | delta-9 desaturase | emb CAA42997.1 | %17 | 6 | 089 |
| LIDIA V93 | 906066 | 0.4 | blocty 2 | wealth similar to E | αh Δ Δ Δ 8 1 1 4 3 1 1 | 300% | 1167 | 2459 |
| CONTRACT | 20000 | <u> </u> | Oldsta: | nidulans him A gene | Qo 17 17 17 17 17 17 17 17 17 17 17 17 17 | 37% | 588 | 1025 |
| | | | | product (SP:P17885) | | 19% | 1776 | 2474 |
| | | | ٠. | Caenorhabditis | | 22% | 1716 | 2186 |
| | | | | elegans] | - | 21% | 1653 | 2093 |
| | | | | | | 24% | 2274 | 2540 |
| HOFNG28 | 908746 | 96 | blastx.2 | CD59 | sp O62680 CD59_PI | 24% | 51 | 401 |
| | | | | OLI COLI INO LEIN | | | | |

| | | | PRECURSOR (MEMBRANE ATTACK COMPLEX 1 (PROTECTIN). | | · | | |
|-----|----------|----------|---|-------------------|------|------|------|
| 96 | | blastx.2 | (AL050283) | emb CAB43384.1 | %16 | 640 | 1491 |
| | | | hypothetical protein | | 77% | 380 | 745 |
| | | | [Homo sapiens] | | 42% | 329 | 427 |
| 6 | | blastx.2 | initiation factor 2 | gb AAA67038.1 | 100% | 11 | 1498 |
| | - | | [Homo sapiens] | | | | |
| 86 | | blastx.2 | (AF090942) PRO0657 | gb AAF24054.1 AF0 | 23% | 1122 | 874 |
| | | | [Homo sapiens] | 90942_1 | | | |
| 66 | \vdash | blastx.2 | (AB029042) ATPase | dbj BAA88422.1 | 100% | 53 | 232 |
| | | | inhibitor precursor | | 100% | 1614 | 1754 |
| | | | [Homo sapiens] | | | | |
| 100 | \vdash | blastx.2 | (AP000616) similar to | dbj BAA85438.1 | %56 | 423 | 364 |
| | | | RING-H2 finger | | 100% | 423 | 367 |
| | | | protein RHA1a | | 100% | 423 | 367 |
| | | | (AF078683) [Oryza | | 100% | 423 | 367 |
| | | | sativa | | 17% | 423 | 343 |
| | | | • | | %06 | 423 | 364 |
| | | | | | 84% | 421 | 347 |
| | | | | | 44% | 308 | 222 |
| | | | | | 33% | 309 | 229 |
| | | | | | 35% | 332 | 249 |
| 101 | <u> </u> | blastx.2 | (AK000385) unnamed | dbj BAA91131.1 | %08 | 819 | 938 |
| | | | protein product [Homo sapiens] | | | | |
| 102 | ١. | blastx.2 | (AL031629) similar to | emb CAA20980.2 | 52% | 275 | 496 |
| • | | | RNA recognition motif. | | | | |
| ١ | 1 | | | | | |]. |

| HRADL40 | 919433 | 103 | blastx.2 | dodecenoyl-CoA delta- | emb CAA81066.1 | 100% | 37 | 942 |
|---------|--------|-----|----------|------------------------|----------------|------|------|------|
| | | | | isomerase [Homo | | - " | | |
| | | | | sapiens] | | | | |
| HOFMP73 | 919895 | 104 | blastx.2 | cathepsin B [Homo | gb AAC37547.1 | %58 | 113 | 1129 |
| | | | • | sapiens | | | | |
| HOFMS02 | 920253 | 105 | blastx.2 | ATPase subunit 6 | emb CAA45262.1 | 54% | 156 | 386 |
| | | | | [Phoca vitulina] | | | | |
| HUVHD12 | 921707 | 106 | blastx.2 | inositol polyphosphate | gb AAB01069.1 | 35% | 187 | 492 |
| | | | | 4-phosphatase [Rattus | | 30% | 687 | 953 |
| | | | | norvegicus] | | %09 | 43 | 102 |
| HMVDQ4 | 161226 | 107 | blastx.2 | (AL137496) | emb CAB70771.1 | %86 | 384 | 809 |
| - | | | | hypothetical protein | | %66 | 7 | 385 |
| | | | | [Homo sapiens] | | | | |
| HODGI03 | 62826 | 108 | blastx.2 | replication protein A | gb AAA58350.1 | 100% | 447 | 635 |
| | | | | 14kDa subunit [Homo | | | | |
| | | | | sapiens] | | | | |
| HODHD14 | 922955 | 109 | blastx.2 | unknown protein | gb AAA88036.1 | %09 | 22 | 174 |
| | | | | [Homo sapiens] | | | | |
| HODDC03 | 95256 | 110 | blastx.2 | ORF4 [Rattus | emb CAA37647.1 | 40% | 126 | 245 |
| | | | | norvegicus] | | 28% | 344 | 433 |
| | | | | | | 20% | 307 | 336 |
| HVCAG04 | 925735 | 111 | blastx.2 | (AF034633) GPR39 | gb AAC26082.1 | 100% | 1281 | 781 |
| | | | | [Homo sapiens] | | 73% | 1364 | 1293 |
| HCRCE02 | 925837 | 112 | blastx.2 | putative p150 [Homo | gb AAC51269.1 | 47% | 17 | 489 |
| | | | | sapiens] | | 20% | 709 | 867 |
| | | | | | | 31% | 329 | 209 |
| | | | | | | 40% | 876 | 971 |
| HHERA91 | 926067 | 113 | blastx.2 | (AK000530) unnamed | dbj BAA91234.1 | 100% | 2031 | 2399 |
| | | | | protein product [Homo | | | | |

| | | | | sapiens | | | | |
|---------|--------|-----|----------|---|------------------------------|------------|-----------|-------------|
| HAGDL82 | 928396 | 114 | blastx.2 | (AK000496) unnamed protein product [Homo sapiens] | dbj BAA91205.1 | 75% 75% | 210 | 208 |
| HWBDS34 | 930484 | 115 | blastx.2 | Similar to S. cerevisiae hypothetical protein L3111 (S59316) [Homo sapiens] | dbj BAA13405.1 | %66 | 57 | 983 |
| H6ESA39 | 933568 | 116 | blastx.2 | BCDNA:LD21720 PROTEIN. | sp Q9XZ25 Q9XZ25 | 47% 26% | 623 14 | 1150 169 |
| HPCOR06 | 933678 | 117 | blastx.2 | ORFII [Homo sapiens] | emb CAA36480.1 | 73% 62% | 99 | 266 459 |
| | | | | | | %09 %99 | 28 | 144 |
| HTFNO06 | 933989 | 118 | blastx.2 | (AC009177) unknown protein [Arabidopsis thaliana] | gb AAF27013.1 AC0 09177_3 | 39% | 95 | 505 |
| HODFY08 | 935520 | 119 | blastx.2 | (AB012223) ORF2 [Canis familiaris] | dbj BAA25253.1 | 45% | 62 | 447 |
| HRACK27 | 935717 | 120 | blastx.2 | (AL133045) hypothetical protein [Homo sapiens] | emb CAB61372.1 | %16 | 681 | 1283 |
| HRACW30 | 940639 | 121 | blastx.2 | (AF113887) kappa 1 immunoglobulin light chain [Homo sapiens] | gb AAD29608.1 | 93% | 79 | 786 |
| HOFOC32 | 941969 | 122 | blastx.2 | placental protein Diff33 [Homo sapiens] | emb[CAB09783.1 | 84% | . 84 | 1502 |
| HTTDM15 | 942511 | 123 | blastx | (AL033127) hypothetical protein | emb CAA21869.1 | 27% | 62 759 | 427 959 |

| 1048 | 488 | 125 | 376 | | 2072 | 2037 | 2113 | 182 | 106 | .310 | 243 | 365 | 174 | 61 | 1343 | | 135 | 001 | 539 | 732 | 740 | 919 | | | 536 | |
|-----------------------------|------------------|---------------------|------------------|-------------|----------------|----------------------|----------------|-----------------|-----------------------|---------------|----------|----------------------|----------------|-----|----------------|----------------|-----------------|----------|------------------|--------------------|-----|--------------------|----------------------|--------------|----------------------|----------------------|
| 596 | 583 | 229 | 492 | | 624 | 1984 | 2039 | 66 | 7 | 257 | 169 | 177 | 64 | 2 | 3 | | QV | 2 | 72 | 604 | 267 | 29 | | | æ | - |
| 32% | %59 | 43% | 34% | | 94% | %88 | 52% | %09 | 21% | %99 | 64% | 46% | 45% | 85% | %66 | | 020% | | 46% | 36% | 25% | 100% | | | 100% | |
| | emb CAA43593.1 | | | | emb CAB43393.1 | ٠ | | gb AAB60345.1 | | | | gb AAA37565.1 | | | gb AAD19826.1 | | SVAVOOISVAVOOIM | | gb AAA51851.1 | | | dbj BAA88923.1 | - | | gb AAD17317.1 | |
| [Schizosaccharomyces pombe] | L1 retroposon, a | portion of its ORF2 | sequence [Rattus | norvegicus] | (AL050294) | hypothetical protein | [Homo sapiens] | ORF2, encodes a | reverse transcriptase | homolog [Homo | sapiens] | envelope polyprotein | [Mus musculus] | | (AF038963) RNA | helicase [Homo | TONA GGTD14 | PROTEIN. | human complement | C1r [Homo sapiens] | 1 | (AB023584) reduced | expression in cancer | Homo sapiens | (AF124522) tetraspan | NEI-2 [Homo sapiens] |
| | blastx.2 | | | | blastx.2 | | | blastx.2 | | | | blastx.2 | | | blastx.2 | | bloops 2 | Ulasta.2 | blastx.2 | | | blastx.2 | | | blastx.2 | |
| | 124 | | | | 125 | | | 126 | | | | 127 | | | 128 | | 120 | 127 | 130 | | | 131 | | | 132 | |
| | 944031 | | | | 946502 | | | 948608 | | | | 948708 | | | 948719 | | 040001 | 743001 | 949574 | | | 950257 | | | 950475 | |
| | HOVAY63 | | | | HDPFY41 | | | HCOPB92 | | | | HBJH083 | | | HWME04 | 4 | TIEVIAOG | nrv.h30 | HTLGV19 | | | HMSAC18 | | | HAPRB43 | |

| 115 | | 1551 | 499 | 155 | | 1117 | 117 | 397 | 117 | 1452 | 1557 | 1028 | | 1805 | 1680 | 346 | 1660 | 940 | 2308 | 312 | 313 | 2317 | 316 | 307 | 315 | 2314 |
|----------------|------------------------|---------------------|--------------------|-------------------|------------------|----------------------|----------------|-----|-----|------|------|----------------|----------------------|-----------------|----------------|-----------------------------|----------------------|--------------------|---------|------|------|------|------|-------|------|------|
| | \perp | _ | | | | | | | | | | | | | | | | | | | | | _ | | | |
| 225 | | 424 | 113 | 6 | | 515 | 515 | 645 | 809 | 1099 | 1099 | 219 | | 1969 | 1820 | 38 | 32 | 473 | 2270 | 2226 | 2269 | 2273 | 2272 | 2269 | 2226 | 2270 |
| 94% | | 94% | %02 | 32% | | 31% | 33% | 33% | 33% | 33% | 27% | 100% | | %09 | 38% | %66 | %//6 | 27% | 53% | 34% | %09 | %09 | %09 | 46% | 36% | 23% |
| emb CAA59444.1 | | gb AAD52683.1 AF1 | 79370_1 | - | | gb AAA53048.1 | | | | | | emb CAB61378.1 | | gb AAA88036.1 | -) | emb CAA66609.1 | gb AAD45865.1 AF0 | 83217 1 | l | | | | | | | |
| catalase | [Campylobacter jejuni] | (AF179370) insulin- | like growth factor | binding protein 5 | protease [Rattus | proline-rich protein | [Mus musculus] | 1 | | | | (AL133051) | hypothetical protein | unknown protein | [Homo sapiens] | calcyphosine [Homo sapiens] | (AF083217) WD repeat | protein WDR3 [Homo | sapiens | | | | | | | |
| blastx.2 | | blastx.2 | | | | blastx.2 | | | | | | blastx.2 | | blastx.2 | | blastx.2 | blastx.2 | | | | | | | | | , |
| 133 | | 135 | | | | 136 | | | | | | 137 | | 138 | | 139 | 140 | | | | | | | | | |
| 956895 | | 859096 | | | | 961337 | | | | | | 961458 | | 962362 | | 965190 | 965372 | | | - | | | | , | | |
| HCCMD55 | | HKADF15 | | • | | HOGESSS | | | | | | HKZAJ14 | | HL.HAE14 | | HBCJN16 | HCGAF29 | | | | | | | | | |

| | | | | | | | | | | | | | | | 3 | | | | | | | | | | |
|------|--|----------------|----------------|---------------------|----------------------|-----------------------|----------------|----------------------|-----------------|---------|--------------------|-----------------------|---------|-----------------------|-----------------|---------|------|---------------|---------|-------------------|---------------|------------|-----------------|----------------|-------------------|
| 1665 | 1267 | 646 | 718 | 241 | 1011 | 101 | | 2187 | 1512 | 2184 | 151 | | ļ | 1099 | 1891 | 2653 | 1102 | 536 | 605 | 503 | | | 812 | | 639 |
| 1600 | 2 | 8 | 428 | ∞ | 201 | 391 | | 1 | 106 | 1183 | 306 | | | 359 | 1259 | 2021 | 974 | 324 | 552 | 18 | | | 444 | | 91 |
| 47% | 100% | 33% | 36% | 30% | 1000 | 100% | | 100% | 40% | 41% | 94% | | | 38% | 36% | 25% | 25% | %65 | %99 | %56 | | - | %66 | | %06 |
| | dbj BAA90924.1 | dbj BAA13219.1 | | | 31.:ID A A 7/26/4/11 | aoj bAA/0244.1 | | gb AAA51976.1 | | | dbj BAA91005.1 | | | gb AAA81672.1 | | | | gb AAA97460.1 | | sp O60613 SE15_HU | MAN | | dbj BAA33584.1 | | gb AAA50165.1 |
| | (AK000069) unnamed protein product [Homo- sapiens] | similar to | D.melanogaster | peroxidasin(U11052) | (A DO1764A) | conjugating enzyme E2 | [Homo sapiens] | preceruloplasmin (EC | 1.16.3.1) [Homo | sapiens | (AK000200) unnamed | protein product [Homo | sapiens | F20D12.3 gene product | [Caenorhabditis | elegans | | hPMSR6 [Homo | sapiens | 15 KD | SELENOPROTEIN | PRECURSOR. | (AB012955) KIP2 | [Homo sapiens] | hepatocyte growth |
| | blastx.2 | blastx.2 | | | 1-14 0 | OldStx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | | | blastx | | blastx.2 | | | blastx.2 | | blastx.2 |
| | 142 | 143 | | | 1 4 4 | <u>‡</u> | | 145 | | | 146 | | | 148 | | | | 149 | | 150 | | | 151 | | 152 |
| | 208196 | 968171 | | | 0.00454 | 908434 | | 968949 | - | | 969387 | | | 970046 | | | | 973010 | | 973505 | | | 974667 | | 975754 |
| | HBJAB02 | HOUCR01 | | | 110777010 | HUIIGIS | | HBLGD30 | | | HFIHK04 | | | HE8NQ16 | | | | HOFMS34 | | HOFOB11 | | | HTLHN94 | | HLDRT31 |

| | | | | factor-like protein | | 20% | 100 | 579 |
|-------------|--------|-----|----------|--|----------------|------|-------|------|
| | | | , | [Homo sapiens] | | 44% | 100 | 579 |
| | | | | | | 20% | 346 | 558 |
| HWLHW8 6 | 975771 | 153 | blastx.2 | epithelial glycoprotein (EGP) precursor Homo sapiens | gb AAA35723.1 | 100% | 245 | 1186 |
| HOFNM53 | 976051 | 154 | blastx.2 | (AL110276) hypothetical protein [Homo sapiens] | emb CAB53711.1 | 37% | 498 | 1094 |
| HDPSE86 | 976207 | 155 | blastx | (AF086713) rasGAP- | gb AAD09006.1 | 83% | 757 | 1311 |
| | | | | activating-like protein | | %1% | 1 208 | 420 |
| | | | | [errordne orrorr] | | 83% | 401 | 511 |
| | | | | | | 30% | 361 | 450 |
| | | | | | | 42% | 1 | 42 |
| HHFOE18 | 976216 | 156 | blastx.2 | (AL117664) | emb CAB56034.1 | 25% | 376 | 1275 |
| | | | | hypothetical protein | | 35% | 14 | 139 |
| HHFNH27 | 896926 | 157 | blastx.2 | Nascent polypeptide | emb CAA56869.1 | %86 | 26 | 589 |
| | | | | associated complex | | 100% | m | 26 |
| | | | | arpha subulit [1101110] | | : | | |
| HMMBZ8 | 977264 | 158 | blastx.2 | alternatively spliced | gb AAB49034.1 | 25% | 545 | 369 |
| _ | | | | product using exon 13A [Homo sapiens] | | : | | |
| HSLGF32 | 977704 | 159 | blastx.2 | (AL133063) | emb CAB61387.1 | 25% | 2 | 250 |
| | | | | hypothetical protein [Homo sapiens] | | | : | , |
| HODFU73 | 978812 | 161 | blastx.2 | myeloid ecotropic viral integration site-1b | gb AAA85509.1 | 94% | 371 | 652 |
| | | | | | | | | |

| | | | | [Mus musculus] | | | | |
|------------|--------|-----|----------|---|----------------------------|------------|------------|------|
| HNBUA49 | 978998 | 162 | blastx.2 | (AF085356) putative RNA helicase [Homo | gb AAD40191.1 | 97% 38% | 365 130 | 1282 |
| HVVDI173 | 979346 | 163 | blastx 2 | ladinin [Homo saniens] | ob/AAB588171 | %66 | 53 | 1603 |
| HHESX72 | 979468 | 162 | blastx.2 | (AK001665) unnamed | dbi BAA91821.1 | %96 | 202 | 480 |
| | | | | protein product [Homo | - | | | |
| | | | , | sapiens] | | | | |
| HOCPY88 | 979547 | 165 | blastx.2 | (AF035299) similar to | gb AAB88182.1 | 100% | 136 | 939 |
| _ | | | _ | GAP binding protein | | - | | |
| | | | | p62do [Homo sapiens] | | | | |
| HOGDC64 | 999626 | 166 | blastx.2 | kinase A anchor protein | emb CAA66000.1 | 100% | 236 | 692 |
| | | | | [Homo sapiens] | | 40% | _ | 165 |
| | | | _ | | | 45% | 40 | 204 |
| HSIEA14 | 980139 | 167 | blastx.2 | (AK000385) unnamed | dbj BAA91131.1 | 72% | 613 | 482 |
| | | | | protein product [Homo | | 20% | 783 | 673 |
| | | | | sapiens] | | %89 | 299 | 620 |
| HSPSY43 | 692086 | 168 | blastx.2 | alphall spectrin [Rattus | emb CAA62350.1 | 100% | 937 | 1659 |
| LCTICADITA | 001000 | 160 | bloops 2 | IIOI VEBICUS] | 25 A A D 5 5 4 3 1 1 A E 1 | 740% | 301 | 1263 |
| +211GASH | 701027 | 103 | Ulasta.2 | RcDNA GH12144 | 81645 1 | 3/6% | 1207 | 2148 |
| | | | | Drosonbila | | %%0 | 1684 | 2040 |
| | | | | melanopaster | | %90 | 1702 | 2067 |
| | | | | | | 31% | 1609 | 1896 |
| | 2014 | | | | | 22% | 1711 | 2061 |
| | | | , | | | 35% | 1819 | 1962 |
| | | | | | | 23% | 1867 | 2157 |
| HOFAE61 | 981108 | 170 | blastx.2 | predicted using | emb CAB05030.1 | %65 | 173 | 430 |
| | | | | Genefinder; Similarity | | 71% | 2 | 88 |
| | | | | to E.coli guanosine-3', | | 20% | 727 | 822 |
| | | | | | | - | | |

| | 901 | 1413 | 6 .6 300 253 211 | 812 | 2 | 616 | 125 |
|----------------------------|--|--|---|---|---|--|--|
| | . 2 | 481 | 392 233 407 306 288 | 381 | 217 | 08 | 3 |
| | %86 | 94% | 35% 39% 40% 55% 34% | %61 | 100% | 100% | %88 |
| | emb CAB63713.1 | gb AAA85505.1 | gb AAC52556.1 | gb AAB99905.1 | gb AAC43132.1 | gb AAD42057.1 AF0 44956_1 | gb AAD16299.1 |
| 1 [Caenorhabditis elegans] | (AL133558) hypothetical protein [Homo sapiens] | similar to yeast Sec6p, Swiss-Prot Accession Number P32844; 1 1 norvegicus] | Wiskott-Aldrich Syndrome Protein [Mus musculus] | (AF015037) endooligopeptidase A related protein; EOPA related protein [Oryctolagus cuniculus] | No definition line found [Escherichia coli] | (AF044956) NADH:ubiquinone oxidoreductase B22 subunit [Homo sapiens] | (AF099664) Cdc42 effector protein 4 [Homo sapiens] |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 171 | 172 | 173 | 174 | 175 | 176 | 177 |
| | 981272 | 981309 | 981319 | 981593 | 981606 | 981768 | 981812 |
| | HCFOF82 | HOCMT79 | HKAEI03 | HOCPO31 | HAOTG88 | HVCAH21 | HFPCK56 |

| 482 | | 250 | 247 | 245 | 285 | 284 | 283 | 280 | 282 | 281 | 277 | 279 | 278 | 275 | 274 | 276 | 271 | 273 | 272 | 270 | 268 | 569 | 265 | 799 | 267 | 262 | 263 | 264 |
|----------------|------------------------------|-----------------------|----------------|---------------|-------------------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 24 | | 321 | 318 | 316 | 350 | 349 | 348 | 345 | 347 | 346 | 342 | 344 | 343 | 340 | 339 | 341 | 336 | 338 | 337 | 335 | 333 | 334 | 330 | 331 | 332 | 327 | 328 | 329 |
| %28 | | %56 | 91% | %56 | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| emb CAB75427.1 | | dbj BAA85438.1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (AJ271784) | chromokinesin [Homo sapiens] | (AP000616) similar to | RING-H2 finger | protein RHA1a | (AF078683) [Oryza | sativa | • | | | | | | | | | | | | | | | | | | | | | |
| blastx.2 | | blastx.2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 178 | | 179 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 981859 | | 981862 | | | | | | | | | | | | | | , | | | | | | | | | | | | |
| HAOSJ58 | | HOPJT48 | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | _ | _ | _ | | | | | | | | | | | | | | | | | | | | | | | | |
|------|------|-----|-----|-----|-----|--------------------|--------------------------------|--------------------|----------|----------------|----------|-----------------|---------------------|----------------------|-------------------|-----------------------|----------|-------------------|---------|--------------------|-----------------------|----------|------------------|----------------|-------------------|-----------------|-----------------|------|
| 259 | 260 | 242 | 241 | 239 | 217 | 1001 | | 156 | 578 | 635 | 942 | 1137 | 552 | - | | _ | | | | 949 | 157 | | 737 | 790 | 705 | 3170 | 1451 | 1451 |
| 324 | 325 | 313 | 318 | 316 | 318 | 54 | | 593 | 763 | 763 | 1088 | 628 | 121 | | | | - | | | 503 | ∞ | | 63 | 869 | 100 | 2124 | 1167 | 1167 |
| 100% | 100% | 91% | %88 | 84% | 64% | %66 | | 36% | 33% | 37% | 767 | 48% | 46% | | | - | | | | %66 | %06 | | %96 | 74% | 100% | 32% | 38% | 38% |
| | , | | | | | dbj BAA91241.1 | | emb CAA91932.1 | | | | emb CAA19455.1 | | | | | | | | dbj BAA91222.1 | | | emb CAA12271.1 | | gb[AAA36158.1] | gb AAB66420.1 | | |
| | | | | | • | (AK000541) unnamed | protein product [Homo sapiens] | similar to cuticle | collagen | Caenorhabditis | elegans] | (AL023828) cDNA | EST yk289g5.5 comes | from this gene; cDNA | EST 1 1 yk653f1.5 | comes from this gene; | cDNA EST | EMBL:C07875 comes | from th | (AK000516) unnamed | protein product [Homo | sapiens] | (AJ224979) MTMRI | [Homo sapiens] | L6 [Homo sapiens] | unknown [murine | herpesvirus 68] | |
| | | | | | | blastx.2 | | blastx.2 | | | | blastx.2 | | | | | | | | blastx.2 | | | blastx.2 | | blastx.2 | blastx.2 | • | |
| | | | | | | 180 | | 182 | | | | 184 | | | | | | | | 185 | | | 186 | | 187 | 188 | | |
| | | | | | | 981914 | | 982032 | | | | 982197 | | | | | | | | 982465 | | | 982618 | | 982764 | 800886 | | |
| | | | | | | HCFAV61 | | HOVJY54 | | | | HE8MM52 | | | | | | | | HJBCC19 | | | HODAA93 | | HSPSI74 | HCEHZ42 | | |

| 1451 | 1451 | 1451 | 2414 | 2304 | 375 | 375 | 375 | 334 | 334 | 334 | 334 | 817 | 817 | 817 | 817 | 817 | 135 | 135 | 1422 | 1422 | 1422 | 989 | 954 | 1138 | 1308 | 423 | 421 | |
|------|------|------|------|------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|---------------------------|-------------------|----------|------|----------------------|----------------------|-----------------------------|
| 1167 | 1167 | 1167 | 2127 | 2140 | 94 | 94 | 94 | 116 | 116 | 116 | 116 | 620 | 620 | 620 | 620 | 620 | 7 | 7 | 1234 | 1234 | 1234 | 72 | 685 | 1025 | 1216 | 34 | 248 | |
| 38% | 38% | 38% | 32% | 39% | 35% | 35% | 35% | 37% | 37% | 37% | 37% | 34% | 34% | 34% | 34% | 34% | 37% | 37% | 38% | 38% | 38% | 100% | 100% | 100% | 100% | %09 | 28% | |
| | | | | | | | | | | | | | | | | | | | | | | gb AAB09785.1 | | | | emb CAA65358.1 | | |
| | | • | | | | | | | | | | | | | | | ٠ | | | | | replication factor C, 37- | kDa subunit [Homo | sapiens] | | alpha subunit; forms | heterodimer with NC2 | alpha/Url [Homo sapiens] |
| | | | | | | | | | | | | | | | | | | | | | | blastx.2 | | | | blastx.2 | | |
| | | | | | | | | | | | | | | | | | | | | | | 189 | | | | 190 | | |
| | | | | | | | | | | | | | | | | | | | | | | 983592 | | | | 984008 | | |
| | | | | | | | | | | | | | | | | | | | | | | HDPVU15 | | | | HT5GC28 | • | |

| HDABW5 | 984168 | 191 | blastx.2 | t-complex polypeptide | emb[CAA37064.1] | 100% | 185 | 451 |
|---------|----------|-----|----------|---|-----------------|-------|---------------------------------------|------|
| 0 | | | | 1 (AA 1-556) [Homo | - | | | |
| | 27.02.00 | ļ | | Sapielis | 1,00071,011 | , act | 188 | 383 |
| HAQBHII | 985043 | 192 | blastx.2 | (AJ243177) Xenopus | emb CAB45690.1 | 45% | 393 | 979 |
| | | | | RPA interacting protein | | 46% | 110 | 244 |
| | | | | alpha [Xenopus laevis] | | 46% | 238 | 393 |
| | | | | | | 78% | 244 | 369 |
| | | | | | | 35% | 247 | 336 |
| HMVAW4 | 985280 | 193 | blastx.2 | extensin-like protein [Zea mays] | emb CAA84230.1 | 28% | 096 | 10 |
| HAGDF03 | 985323 | 194 | blastx.2 | neuromedin U [Homo | emb CAA53619.1 | 100% | 169 | 069 |
| HOPK129 | 985401 | 195 | blastx 2 | (AF087135) F1FO-fvne | ob AAC36338 1 | 100% | 65 | 547 |
| | | | | ATPase subunit d | | - | · · · · · · · · · · · · · · · · · · · | |
| HAJCA11 | 985580 | 196 | blastx.2 | GTBP-ALT [Homo | dbj BAA23673.1 | %86 | 394 | 1293 |
| | | | | sapiens] | | 92% | 2 | 391 |
| HWAHA1 | 820986 | 197 | blastx.2 | (AB031292) | dbj BAA83500.1 | 31% | 134 | 511 |
| 1 | | | | proteolipid protein 2 [Mus musculus] | | | | |
| HSAMI43 | 986158 | 198 | blastx.2 | (AF111423) | gb AAD09819.1 | 54% | 14 | 1471 |
| | | | | chromosome | | 23% | 14 | 1387 |
| | | | | condensation protein | | | | |
| | • | | | XCAP-G [Xenopus | | | | |
| | | | | [aevis] | | | | |
| HNFJH73 | 986165 | 199 | blastx.2 | erm [Homo sapiens] | emb CAA65246.1 | 100% | 1 | 591 |
| HNTCH03 | 986328 | 200 | blastx.2 | put. ORF [Homo | emb CAA39297.1 | 48% | 103 | 363 |
| | | | | sapiens] | | 70% | 651 | 089 |
| HSUAA20 | 986744 | 201 | blastx.2 | replication protein A, | gb AAA36584.1 | 100% | 2 | 1312 |

| 1347 | 1054 | 1092 743 | 718 | 850 | 400 53 | 1289 476 | 857 1061 | 812 | 1278 |
|-------------------------------|---|--|--|--|--|-----------------------------|---|------------|------|
| 1315 | 908 | 256 540 | 278 | 368 | 38 | 57 81 663 | 492 801 | 516 195 | 1228 |
| 100% | 100% | 76% 83% | 46% | 100% | %88 %96 | 94% | 44% 36% | 33% | 61% |
| | emb CAB37641.1 | emb CAB57330.1 | gb AAC61698.1 | emb CAA69255.1 | gb AAD27835.1 AF1 21862_1 | emb CAA75163.1 | £ : : : : : : : : : : : : : : : : : : : | - | |
| 70-kDa subunit [Homo sapiens] | (AL031663) dJ461P17.6 (Major Epididymis-specific protein E4 1 1 sapiens] | (AL121740) hypothetical protein [Homo sapiens] | (AF068749) sphingosine kinase [Mus musculus] | helix-loop-helix protein [Homo sapiens] | (AF121862) sorting nexin 13 [Homo sapiens] | SPIN protein [Homo sapiens] | : | | |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | |
| | 202 | 203 | 204 | 205 | 206 | 207 | | | |
| | 1986767 | 987018 | 987071 | 987112 | 987165 | 987262 | | | |
| | HSPAD08 | HFKBA32 | HHFLU49 | HOENX16 | HTFOW71 | HTTAG03 | | | -, |

| HNTNN89 | 77777 | 208 | hlastx 2 | elongation factor 2 | emblCAA35829 11 | %86 | 110 | 547 |
|----------------|--------|-----|----------|---------------------------|-----------------|----------|-------|------|
| | | 2 | | | | 2000 | 0 7 7 | |
| | | | _ | [Homo sapiens] | | -%/ / | 243 | /13 |
| | | | | | | 100% | 7 | 115 |
| HRADQ96 | 987636 | 209 | blastx.2 | (AF134726) NG23 | gb AAD21821.1 | %96 | 303 | 398 |
| _ | | | | [Homo sapiens] | | 100% | 9 | 29 |
| HLDCJ16 | 808786 | 210 | blastx.2 | 3-oxoacyl-[acyl-carrier- | dbj BAA35901.1 | 39% | 159 | 761 |
| | | | | protein] reductase (EC | , | | | |
| | | | | coli] | | | | |
| НСОРН23 | 006286 | 211 | blastx.2 | nucleoporin-like | emb CAA61667.1 | 94% | 289 | 447 |
| | | | | protein [Homo sapiens] | | | | |
| HEEAQ78 | 988159 | 212 | blastx.2 | TBX2 [Homo sapiens] | gb[AAA73861.1] | %66 | 164 | 475 |
| | | | | | | %86 | _ | 165 |
| | | | | | | 33% | 12 | 191 |
| | | | | | | 29% | 706 | 394 |
| | | | | | | 29% | 260 | 403 |
| HOFNY16 | 988363 | 213 | blastx.2 | (AL110239) | emb CAB53690.1 | %66 | 242 | 853 |
| | | | | hypothetical protein | · | 100% | 144 | 236 |
| HSLCX45 | 988441 | 214 | blastx.2 | (AB006572) RPB5 | dbj BAA34781.1 | %86 | 106 | 1404 |
| | | | | meidating protein | | | | |
| | | | | [Homo sapiens] | | | | |
| HLMJB09 | 988499 | 215 | blastx.2 | cDNA EST yk575f9.3 | emb CAA94859.1 | 39% | 270 | 491 |
| | | | | comes from this gene | | 34% | 496 | 591 |
| | | | | [Caenorhabditis | | | • • • | |
| | | | | elegans] | | | | |
| HOVEF60 | 988526 | 216 | blastx.2 | envelope protein | gb AAA88027.1 | 75% | 377 | 298 |
| | | | | [Homo sapiens] | | 36% | 11 | 298 |
| HOGDR72 | 985886 | 217 | blastx.2 | RNA polymerase II | gb AAA75522.1 | 100% | 62 | 415 |
| | | | | transcription factor SIII | | | | |

| | 366 | 728 | 587 | 200 | 926 | 222 | 318 | 789 | 107 | 2127 | | 789 | 292 | 167 | 1107 | 1173 | 410 | 209 | 346 | 1178 | 974 | 216 | 121 |
|----------------------------|---|--|-----------------------|----------|-----|-----|-----|-----|-----|-------------------|------------------------|-----------------------|--------------------|-----------------------|---------|------------------------------------|---------------------|------|-----|-----------------|----------------|-----|-----|
| | 1 | 429 | 153 | 308 | 804 | 29 | 88 | 637 | 48 | 1 | | 49 | 471 | 301 | 1148 | 535 | 312 | 551 | 260 | 120 | 279 | | 5 |
| | %66 | %86 | %66 | 25% | 26% | 28% | 36% | 31% | 45% | %16 | | 100% | %09 | 77% | 21% | 100% | 93% | 100% | 72% | %76 | 24% | 47% | 35% |
| | emb CAA71143.1 | gb AAB40147.1 | emb CAA00862.1 | | | | | | • | emb CAB64449.1 | | emb CAA67781.1 | dbj BAA91131.1 | | | dbj BAA22572.1 | emb CAA75516.1 | | | dbj BAA19546.1 | | | |
| p18 subunit [Homo sapiens] | high mobility group protein 2a [Homo sapiens] | MHC Class I region proline rich protein [Homo sapiens] | binding protein [Homo | sapiens] | | | | | | (AJ252060) TRABID | protein [Homo sapiens] | Berg36 [Homo sapiens] | (AK000385) unnamed | protein product [Homo | sapiens | (AB007619) EBAG9 [Homo sapiens] | Leu2 [Homo sapiens] | | | (AB002533) Qip1 | [Homo sapiens] | | |
| | blastx.2 | blastx.2 | blastx.2 | | | | | | | blastx.2 | | blastx.2 | blastx.2 | | | blastx.2 | blastx.2 | | | blastx.2 | | | |
| | 218 | 219 | 220 | | | | | | | 221 | | 222 | 223 | | | 224 | 225 | | | 226 | | | |
| | 988556 | 988737 | 988904 | | | | | | | 989029 | | 989183 | 989280 | | • | 989321 | 989323 | | | 968686 | | | |
| | HOCMF20 | HAMHH2 6 | HHFOX44 | | | | | | | HPWDE54 | | HNOAX46 | нсосв28 | | | HOOJB32 | HMWJJ35 | | | HHFIA95 | | | |

| 247 | 282 | 099 | 618 | 652 | 813 | 790 | - | | 1155 | 528 | 181 | 542 | 206 | 88 | 2745 | 330 | 330 | 327 | 330 | 327. | 330 | 330 | 330 | 330 | 339 | 327 | 327 |
|--------------------------|----------------|----------------------------------|------------------------------|------------------|------------------------|--------------------|-----------------------|----------|---------------------|------------------|----------------|---------------------|------------------|----------------|-------------------------|------------------------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|
| 77 | 250 | 100 | 361 | 2 | 622 | 2 | | | 616 | 187 | 116 | 282 | 123 | 26 | 43 | 40 | 40 | 43 | 49 | 43 | 46 | 46 | 46 | 46 | 49 | 49 | 43 |
| 94% | 100% | 100% | %16 | %86 | %68 | 100% | | | 100% | 93% | 100% | 100% | 78% | 21% | %86 | 43% | 40% | 45% | 46% | 44% | 47% | 48% | 45% | 46% | 43% | 44% | 41% |
| emb CAA43200.1 | | dbj BAA01374.2 | gb AAF36161.1 AF1 51075 1 | gb AAC79695.1 | | dbj BAA91941.1 | | | gb AAF32373.1 AF2 | 22742_1 | | gb AAF32373.1 AF2 | 22742 1 | | emb CAA36267.1 | | | | - | | | | | - | | | |
| transcription factor ILF | [Homo sapiens] | p67 myc protein Homo sapiensl | (AF151075) HSPC241 | (AF067817) VAV-3 | protein [Homo sapiens] | (AK001851) unnamed | protein product [Homo | sapiens] | (AF222742) synaptic | glycoprotein SC2 | [Homo sapiens] | (AF222742) synaptic | glycoprotein SC2 | [Homo sapiens] | collagen type VI, alpha | 3 chain [Homo sapiens] | 1 | | | | | , | | | | | |
| blastx.2 | | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | | | | | | | | | | | |
| 227 | | 228 | 229 | 230 | | 231 | | | 232 | | | 233 | | | 234 | | | | | | | | | | | | |
| 209686 | | 756686 | 090066 | 990146 | | 990184 | • | | 990254 | | | 990255 | | | 990435 | | | | | | | | | | | | |
| HSPSH36 | | HAAAA25 | HTEMJ16 | HWLAB90 | | HOSED43 | | | HNODF50 | | | HLWBV17 | | | 99НОООН | , | | | | | | | | | | | |

| 330 | 327 | 327 | 333 | 327 | 096 | 1587 | 647 | 1031 | | 3258 | 202 | 499 | | | 2098 | | 226 | 63 | 324 | 72 | 72 | 75 | 72 | 75 | 72 |
|-----|-----|-----|-----|-----|-----|------|-----|-------------------------|----------|----------------|-------------|--|----------------------|--------------------------|-----------------|-------------------------------------|----------------------|-----|-----------------|----------------|-----|-----|-----|-----|-----|
| 85 | 46 | 49 | 46 | 49 | 391 | 1117 | 531 | 75 | | 10 | 131 | 107 | | | 1436 | | 99 | 43 | 241 | 4 | 13 | - | _ | 13 | 4 |
| 48% | 41% | 41% | 41% | 43% | 79% | 79% | 45% | %66 | | %16 | %99 | %LE | | | %66 | | 42% | 71% | %001 | 39% | 45% | 32% | 36% | 33% | 21% |
| | | | | | | | | gb AAA36407.1 | • | dbj BAA13432.1 | | gb AAA83581.1 | | | emb[CAB59248.1] | | gb AAA58464.1 | | gb[AAD09746.1] | | | | | | |
| - | • | | | | | | | pyrroline-5-carboxylate | sapiens] | TIP120 [Rattus | norvegicus] | coded for by C. elegans cDNA yk38h3.5; coded | for by C. elegans 11 | [Caenorhabditis elegans] | (AL122073) | hypothetical protein [Homo sapiens] | ORF 3 [Homo sapiens] | | (AF065391) ZIS1 | [Homo sapiens] | 1 | | | | |
| | | ٠ | | | | | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | | | | | |
| | | | | | | | | 235 | | 236 | | 237 | | | 238 | | 239 | | 240 | | | | | | |
| | _ | | | | | | | 990546 | | 609066 | | 990611 | | | 990751 | | 692066 | | 990913 | | _ | | | | |
| | | | | | | | | HOGDC67 | | HCDB002 | | HODGN92 | | | HPDRP30 | | HBXFN09 | | HDTB075 | | | | | | |

| Homo sapiens 23653_1 52% 32 328 | HELGN26 991014 | 991014 | 241 | blastx.2 | (AF123653) FEZ1 | gb AAD23834.1 AF1 | 47% | 192 | 905 |
|--|------------------|--------|-----|----------|--------------------------------------|------------------------------|-------------|------|------|
| 991048 242 blastx.2 (AF213822) gb AAF27786.1 AF2 42% 171 991268 243 blastx.2 (AF007872) torsinB gb AAF23786.1 AF2 42% 1104 991268 243 blastx.2 (AF007872) torsinB gb AAC51733.1 100% 238 991566 244 blastx.2 (AK001371) unnamed product [Homo sapiens] dbj BAA91655.1 100% 192 991761 245 blastx.2 (AK000385) unnamed product [Homo sapiens] dbj BAA91131.1 76% 263 991761 246 blastx.2 (AK000474) unnamed sapiens] dbj BAA91189.1 100% 210 992780 247 blastx.2 TSC-22 [Homo sapiens] gb AAC51768.1 100% 598 992780 248 blastx.2 TSC-22 [Homo sapiens] dbj BAA91189.1 96% 40 992780 247 blastx.2 TSC-22 [Homo sapiens] dbj BAA751189.1 96% 40 992780 248 blastx.2 (AF176524) F-box protein Product [Homo sapiens] gb AAF3616.1 AF1 | | | | | [Homo sapiens] | 23653_1 | 52% | 32 | 181 |
| 991048 242 blastx.2 (AF213822) gb AAF23786.1 AF2 42% 1104 991268 243 blastx.2 (AF007872) torsinB gb AAC51733.1 100% 238 991268 243 blastx.2 (AK001371) unnamed db BAAC51733.1 100% 238 991516 244 blastx.2 (AK001371) unnamed db BAAC5113.1 100% 192 991516 245 blastx.2 (AK00385) unnamed db BAA91655.1 100% 192 991761 245 blastx.2 (AK00385) unnamed db BAA91131.1 76% 263 991761 246 blastx.2 (AK00385) unnamed db BAA91131.1 76% 263 992780 247 blastx.2 TGCSCIPIONO db BAAC51768.1 100% 210 992780 247 blastx.2 TGA00474) unnamed db BAA07598.1 76% 93 992780 248 blastx.2 (AK000474) unnamed db BAAF301189.1 76% 93 992780 250 <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td>38%</td> <td>171</td> <td>470</td> | | | | | 1 | | 38% | 171 | 470 |
| hypothetical protein 13822_1 56% 1552 1747 1068 1570 1747 1070 1747 174 | HODCU15 | 991048 | 242 | blastx.2 | (AF213822) | gb AAF23786.1 AF2 | 45% | 1104 | 1550 |
| 991268 243 blastx.2 (AF007872) torsinB gb AAC51733.1 100% 238 991516 244 blastx.2 (AK001371) unnamed sapiens] db BAAC51733.1 100% 238 991516 244 blastx.2 (AK0001371) unnamed sapiens] db BAA91655.1 100% 192 991654 245 blastx.2 (AK000385) unnamed sapiens] db BAA91131.1 76% 263 991761 246 blastx.2 microsomal glutathione sapiens] gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo db BAA07598.1 96% 40 992780 248 blastx.2 TSC-22 [Homo db BAA07598.1 96% 40 992780 248 blastx.2 (AK000474) unnamed db BAA91189.1 79% 933 992973 250 blastx.2 (AK16524) F-box gb AAF36161.1 AF1 99% 157 993380 251 blastx.2 (AK151075) HSPC241 gb AAF36161.1 AF1 99% 157 1034 | | | | | hypothetical protein | 13822_1 | 26% | 1552 | 1710 |
| 991268 243 blastx.2 (AF007872) torsinB gb AAC51733.1 100% 238 991516 244 blastx.2 (AK001371) unnamed sapiens] db BAA91655.1 100% 192 991516 244 blastx.2 (AK001371) unnamed sapiens] db BAA91655.1 100% 192 99154 245 blastx.2 (AK000385) unnamed sapiens] db BAA91131.1 76% 263 991761 246 blastx.2 microsomal glutathione sapiens] gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo sapiens] db BAA07598.1 96% 40 992780 248 blastx.2 (AK00474) unnamed sapiens] db BAA01189.1 100% 598 992973 250 blastx.2 (AK176524) F-box sapiens] gb AAF90133.1 67% 8 993380 251 blastx.2 (AF176524) F-box sapiens] gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 (AF176524) F-box sapiens] cmb CAB04720.1 48% <td></td> <td></td> <td></td> <td></td> <td>[Zymomonas mobilis]</td> <td></td> <td>27%</td> <td>1747</td> <td>1929</td> | | | | | [Zymomonas mobilis] | | 27% | 1747 | 1929 |
| Homo sapiens Homo sapiens 92% 607 667 803 | HOGDI51 | 991268 | 243 | blastx.2 | (AF007872) torsinB | gb AAC51733.1 | 100% | 238 | 492 |
| 991516 244 blastx.2 (AK001371) unnamed product [Homo sapiens] dbjBAA91655.1 100% 803 991516 244 blastx.2 (AK000385) unnamed sapiens] dbjBAA91131.1 76% 263 991654 245 blastx.2 (AK000385) unnamed sapiens] dbjBAA91131.1 76% 263 991761 246 blastx.2 microsomal glutathione sapiens] gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo sapiens] dbjBAA07598.1 96% 40 992780 248 blastx.2 (AK000474) unnamed sapiens] dbjBAA91189.1 100% 598 992973 250 blastx.2 (AF176524) F-box sapiens] protein product [Homo sapiens] gb AAF36161.1 AF1 99% 157 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 Homo sapiens] 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | | | | | [Homo sapiens] | | 95% | 607 | 873 |
| 991516 244 blastx.2 (AK001371) unnamed sapiens dbj BAA91655.1 100% 192 991554 245 blastx.2 (AK000385) unnamed sapiens dbj BAA91131.1 76% 263 991761 246 blastx.2 microsomal glutathione sapiens gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo sapiens] dbj BAA07598.1 96% 40 992780 248 blastx.2 (AK000474) unnamed sapiens dbj BAA91189.1 100% 598 992973 250 blastx.2 (AK176224) F-box sapiens gb AAF36161.1 AF1 99% 157 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | | | | | | | %69 | 803 | 940 |
| 991654 245 blastx.2 (AK000385) unnamed protein product [Homo sapiens] dbj BAA91131.1 76% 263 991761 246 blastx.2 (AK000385) unnamed protein product [Homo sapiens] dbj BAA0151.1 76% 263 991761 246 blastx.2 microsomal glutathione sapiens] gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo sapiens] dbj BAA07598.1 96% 40 992780 248 blastx.2 (AK000474) unnamed dbj BAA91189.1 100% 598 992780 248 blastx.2 (AK176524) F-box gb AAF09133.1 67% 8 992973 250 blastx.2 (AF176524) F-box gb AAF36161.1 AF1 99% 157 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 1111 | HLWAF02 | 991516 | 244 | blastx.2 | (AK001371) unnamed | dbj BAA91655.1 | 100% | 192 | 449 |
| 991654 245 blastx.2 (AK000385) unnamed sapiens] dbj BAA91131.1 76% 263 991761 246 blastx.2 microsomal glutathione sapiens] gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo sapiens] dbj BAA07598.1 96% 40 992780 248 blastx.2 TSC-22 [Homo sapiens] dbj BAA91189.1 100% 598 992973 250 blastx.2 (AK000474) unnamed sapiens] gb AAF36161.1 AF1 99% 157 993380 251 blastx.2 (AF176524) F-box musculus gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | | | | | protein product [Homo sapiens] | | | | |
| 991761 246 blastx.2 microsomal glutathione sapiens] polymental glutathione sapiens] gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo sapiens] db BAAC51768.1 96% 40 992780 248 blastx.2 TSC-22 [Homo sapiens] db BAAC51189.1 100% 598 992973 250 blastx.2 (AF000474) unnamed sapiens] gb AAF09133.1 67% 8 993380 251 blastx.2 (AF176524) F-box protein FBL.10 [Mus musculus] gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST cmb CAB04720.1 48% 111 | HRKPA16 | 991654 | 245 | blastx.2 | (AK000385) unnamed | dbj BAA91131.1 | %9/ | 263 | 24 |
| 991761 246 blastx.2 blastx.2 microsomal glutathione sapiens] gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo sapiens] dbj BAA07598.1 96% 40 992780 248 blastx.2 TSC-22 [Homo sapiens] dbj BAA91189.1 100% 598 992780 248 blastx.2 (AK000474) unnamed protein Floor dbj BAA91189.1 79% 933 1 992973 250 blastx.2 (AF176524) F-box protein FBL10 [Mus musculus] gb AAF36161.1 AF1 99% 157 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 10000 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 10000 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | | | | | protein product [Homo | | | | |
| 991761 246 blastx.2 microsomal glutathione sapiens] gb AAC51768.1 100% 210 992678 247 blastx.2 TSC-22 [Homo sapiens] db BAA07598.1 96% 40 992780 248 blastx.2 TSC-22 [Homo sapiens] db BAA01189.1 100% 598 992780 248 blastx.2 (AK000474) unnamed product [Homo sapiens] db BAA91189.1 79% 933 1 992973 250 blastx.2 (AF176524) F-box protein FBL10 [Mus musculus] gb AAF36161.1 AF1 99% 157 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 14000 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 1500 151 cDNA EST emb CAB04720.1 48% 111 | | | | | sapiens | | | | |
| 992678 247 blastx.2 TSC-22 [Homo dbj BAA07598.1 96% 40 992678 247 blastx.2 TSC-22 [Homo dbj BAA07598.1 96% 40 992780 248 blastx.2 (AK000474) unnamed protein [Homo dbj BAA91189.1 100% 598 992973 250 blastx.2 (AF176524) F-box protein FBL10 [Mus gb AAF90133.1 67% 8 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | HPDQX94 | 991761 | 246 | blastx.2 | microsomal glutathione | gb AAC51768.1 | 100% | 210 | 650 |
| 992678 247 blastx.2 TSC-22 [Homo dbj BAA07598.1 96% 40 992780 248 blastx.2 (AK000474) umnamed dbj BAA91189.1 100% 598 992780 248 blastx.2 (AK000474) umnamed dbj BAA91189.1 79% 933 1 992973 250 blastx.2 (AF176524) F-box gb AAF09133.1 67% 8 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 Homo sapiens 51075 1 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | | • | - | | S-transferase 2 [Homo | | | | |
| 992678 247 blastx.2 TSC-22 [Homo dbj BAA07598.1 96% 40 992780 248 blastx.2 (AK000474) unnamed dbj BAA91189.1 100% 598 992780 248 blastx.2 (AK176524) F-box gb AAF09133.1 67% 8 992973 250 blastx.2 (AF176524) F-box gb AAF36161.1 AF1 99% 157 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 (AF151075) HSPC341 emb CAB04720.1 48% 111 | | | | | sapiens] | | | | |
| 992780 248 blastx.2 (AK000474) unnamed protein product [Homo sapiens] dbjBAA91189.1 100% 598 793 598 1 992973 250 blastx.2 (AF176524) F-box protein FBL10 [Mus musculus] gb AAF36161.1 AF1 99% 157 8 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 8 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | HEAAY09 | 992678 | 247 | blastx.2 | TSC-22 [Homo | dbj BAA07598.1 | <i>%</i> 96 | 40 | 333 |
| 992780 248 blastx.2 (AK000474) unnamed protein product [Homo sapiens] dbjBAA91189.1 100% 598 793 598 1 992973 250 blastx.2 (AF176524) F-box protein FBL10 [Mus musculus] gb AAF36161.1 AF1 8 8 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | | | | | sapiens | | | | |
| 992973 250 blastx.2 blastx.2 (AF176524) F-box protein FBL10 [Mus musculus] gb AAF709133.1 67% 933 1 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | HPDRH78 | 992780 | 248 | blastx.2 | (AK000474) unnamed | dbj BAA91189.1 | 100% | 298 | 903 |
| 992973 250 blastx.2 protein FBL10 [Mus musculus] gb AAF09133.1 67% 8 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST cDNA EST emb CAB04720.1 48% 111 | | | | | protein product [Homo | | 79% | 933 | 1079 |
| 992973 250 blastx.2 protein FBL10 [Mus musculus] gb AAF09133.1 67% 8 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST cmb CAB04720.1 48% 111 | | | | | sapiens | | | | |
| 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | HODFO57 | 992973 | 250 | blastx.2 | (AF176524) F-box | gb AAF09133.1 | %19 | ∞ | 811 |
| 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | | | | | protein FBL10 [Mus | | | | |
| 993380 251 blastx.2 (AF151075) HSPC241 gb AAF36161.1 AF1 99% 157 Post 1 [Homo sapiens] 51075 1 48% 111 Post 2 blastx.2 cDNA EST emb CAB04720.1 48% 111 | | | | _ | musculus] | , | | | |
| 993403 252 blastx.2 cDNA EST emb CAB04720.1 48% 111 | HOCPZ44 | 993380 | 251 | blastx.2 | (AF151075) HSPC241 [Homo sapiens] | gb AAF36161.1 AF1 51075 1 | %66 | 157 | 540 |
| | HPAMU38 | 993403 | 252 | blastx.2 | cDNA EST | emb CAB04720.1 | 48% | 111 | 407 |

| 803 | 91 | | | 372 | 549 | 205 | 134 | 613 | 382 | 671 | | 695 | 1531 | | 295 | 155 | 558 | 536 | 153 | 528 | 499 | 404 | 377 |
|------------------|---|-------------------------------------|----------------------|--|---------------------|----------|-----|-----|--------------------|-----------------------|---------|------------------------------|--------------------|--------------------------------|-------------------|------------------------|-----|--------------------|-----------------------|----------|-----|-----|-----|
| 450 | 20 | | | 277 | 124 | 77 | 3 | 545 | 239 | 624 | | 3 | 1073 | | . 155 | 12 | 421 | 147 | | 412 | 413 | 291 | 273 |
| 30% | 37% | | | %8 <i>L</i> | 64% | %59 | 48% | %69 | %95 | 20% | | 43% | 87% | | %56 | %56 | 43% | 73% | %96 | %95 | 21% | 34% | 78% |
| | | , | | gb AAD33288.1 AF1 26163 1 | gb AAC51261.1 | | | | dbj BAA92096.1 | | | emb CAA52297.1 | dbj BAA92074.1 | | gb AAD27727.1 AF1 | 32952_1 | | dbj BAA91354.1 | | | | | |
| yk269g12.5 comes | from this gene; cDNA EST EMBL:D27364 1 | 1 comes from this gene; cDNA EST | EMBL:D36272 comes fr | (AF126163) HHLA3 protein [Homo sapiens] | putative p150 [Homo | sapiens] | | | (AK002129) unnamed | protein product [Homo | sapiens | putative [Rattus norvegicus] | (AK002081) unnamed | protein product [Homo sapiens] | (AF132952) CGI-18 | protein [Homo sapiens] | | (AK000741) unnamed | protein product [Homo | sapiens] | | | |
| | | | | blastx.2 | blastx.2 | | | | blastx.2 | | | blastx.2 | blastx.2 | | blastx.2 | | | blastx.2 | | | | | |
| | | | | 253 | 254 | | | | 255 | | | 256 | 257 | | 258 | | | 259 | | | | | |
| | | | | 993602 | 993754 | | | | 908866 | | | 993918 | 993931 | | 994134 | | | 994234 | | | | | |
| | | | | HNGGK47 | HODGN51 | | | | HODCT60 | | | HAQBV81 | HDTGF49 | | HOGBN62 | | | HSKGR42 | | | | | |

| 468 | 437 | 362 | | 1134 | | 410 | 144 | | 531 | | 513 | | 339 | | - | | | | 1157 | 270 | 1311 | |
|-----|-----|----------------|--|-------------------|----------------|----------------|-----------------|---------|-------------------|----------------|-------------------|----------------|--------------------------|-----------------|--------------------|---------------------|-------------------------------|--|-------------------|--------------|------------------------|---|
| 316 | 291 | 3 | | 1 | | 231 | 19 | | 169 | | 85 | | 43 | | | - | • | | 273 | 124 | 46 | |
| 78% | 32% | %16 | | 100% | | 100% | 81% | | 100% | | 100% | | 84% | | • | | | | %86 | 93% | %96 | 1 |
| | | emb CAB55923.1 | · | emb CAA33389.1 | | emb CAA38702.1 | | | gb[AAC50885.1] | | dbj BAA03400.1 | | emb CAB37991.1 | | | | | | emb CAA72364.11 | | gb AAB51383.1 | |
| | | (AL117435) | hypothetical protein [Homo sapiens] | creatine kinase B | [Homo sapiens] | Cks1 protein | homologue [Homo | sapiens | NifU-like protein | [Homo sapiens] | ribosomal protein | [Homo sapiens] | (AL031432) d1465N24.1 | (PUIAIIVE novel | protein similar to | predicted yeast and | worm proteins) [Homo saniens] | | phosphate cyclase | Homo sapiens | lin-10 protein homolog | T |
| | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | | | | | blastx 2 | | blastx.2 | |
| | | 260 | | 261 | | 262 | | | 263 | | 265 | | 266 | | | | | | 792 | ; | 268 | |
| | | 994356 | | 994536 | • | 964566 | | | 994664 | _ | 994776 | | 994874 | | | | | | 994954 | · | 994993 | |
| | | ноево85 | | HOPJG01 | | HKBAK06 | | | HKGCN61 | | HFOYI37 | | HOFNL18 | | | | | | HOFNT57 | | HCBMT45 | |

| 1154 | 520 | 981 | 838 | 762 | 149 34 | 506 637 | 1307 1297 | 419 | 222 |
|--|--|--------------------------------|---|-----------------------|--|---|-----------------------------|--|---|
| 156 | ∞ . | 73 | 47 | 100 | 33 | 99 419 | 90 | 219 | . 1 |
| 100% | %26 | %66 | %66 | 100% | 74% 63% | 80% 100% | 94% 70% | 100% | 100% |
| emb CAB43741.1 | emb CAB66118.1 | emb CAA70119.1 | dbj BAA05647.1 | gb AAA93069.1 | sp G1488414 G14884 14 | dbj BAA91400.1 | gb[AAA20993.1 | gb AAA91459.1 | dbj BAA82970.1 |
| (AL031668) dJ64K7.2 (eukaryotic translation initiation factor 2, subunit 2 (beta, 38kD)) [Homo sapiens] | (AL050348) dJ447F3.2 (ubiquitin-conjugating enzyme E2 H10) [Homo sapiens] | alpha 4 protein [Homo sapiens] | proteasome subunit HsN3 [Homo sapiens] | SRp30c [Homo sapiens] | N§ GENE PRODUCT LONG ISOFORM, N&L PROTEIN=D52 1 HK4A1]. | (AK000857) unnamed protein product [Homo sapiens] | NF45 protein [Homo sapiens] | RNA polymerase II subunit [Homo sapiens] | (AB030654) AP-4 clathrin adaptor-related complex sigma4 subunit [Homo sapiens] |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 |
| 995200 | 995229 | 995562 | 995590 | 908566 | 995894 | 996247 | 996337 | 996619 | 996804 |
| HATDZ56 | H0CQI44 | HNOJG43 | HSPSB95 | HCORG29 | HCRNO02 | HCBOI79 | HVCAB73 | HSDJH04 | HSOAN18 |

| 222 | 456 | 228 | 352 | 759 | 735 | 1174 | 957 298 | 1360 | 380 |
|---|--|---|---|-------------------------------------|--|---|---|--|--|
| 770 | - | 1 | 218 | 244 | 301 301 | 1037 | 274 | 1226 502 | 162 |
| 91% | %96 | %86 | %16 | 100% | 34% | 100% | %16 %16 | 97% 97% | %08 |
| gb AAA03583.1 | gb AAA36585.1 | dbj BAA91517.1 | gb AAD34147.1 AF1 52097 1 | emb CAA99731.1 | gb AAC47967.1 | gb AAF19255.1 AC0 04858_3 | emb CAB55313.1 | dbj BAA09762.1 | gb AAB42266.1 |
| L-lactate permease Fscherichia colil | rac protein kinase-beta [Homo sapiens] | (AK001138) unnamed protein product [Homo sapiens] | (AF152097) CGI-05 protein [Homo sapiens] | nuclear protein SA-1 [Homo sapiens] | C13F10.7 gene product [Caenorhabditis elegans] | (AC004858) U1 small ribonucleoprotein 1SNRP homolog; match to PID:g4050087 [Homo sapiens] | (AJ132948) rfg7 protein [Homo sapiens] | product is related to clathrin-associated protein. [Homo sapiens] | weak similarity to Arabidopsis thaliana ubiquitin-like protein 8 [Caenorhabditis |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 |
| 996874 | 996903 | 997127 | 997165 | 997595 | 997862 | 997873 | 650866 | 998517 | 998533 |
| HHEHF49 | HCHCF36 | HAHCK58 | HETIJ06 | HAPOE30 | HRGDC33 | HMTMB9 1 | HFAAD07 | HE8TG67 | HACNC39 |

| 686 | 664 | 466 | 721 | 1160 | 587 | 596 | | 1894 | | | 1368 | 691 | 128 | 902 | 546 | 779 | 1702 | | | 115 | | 1903 | 801 | 1669 |
|---|-------------------------|-----------------------|------------------|----------|----------------|----------------------|----------|---------------|-------------|-------------------------|------------------|-------------|-----|-----|------------------------|------------------------|---------------|-----------------|------------------------|--------------------|--------------------------------|---------------|-----------|------|
| 75 | 47 | 2 | 995 | 1095 | 558 | 270 | | 425 | | | 691 | 32 | 3 | 635 | 34 | 474 | 152 | | | 2 | | 95 | 547 | 1454 |
| 100% | 100% | %86 | 38% | 54% | 40% | 36% | | 93% | | | 100% | 95% | %99 | 48% | %88 | 100% | %56 | | • | %16 | | %6L | 67% | 21% |
| dbj BAA82666.1 | emb CAB56776.1 | gb AAD45825.1 AC0 | 04890_2 | 1 | | gb[AAA74723.1] | | gb AAC73069.1 | | | sp O15352 O15352 | , | | | emb CAB65594.1 | | gb AAB80726.1 | - | | dbj BAA91931.1 | | gb AAB18198.1 | | |
| (AB008927) neuropsin type2 [Homo sapiens] | rab8 [Canis familiaris] | (AC004890) similar to | HUB1; similar to | BAA24380 | (PID:g2789430) | histone H1-I [Volvox | carteri] | (AF026124) | schwannoma- | associated protein [Mus | SEP PROTEIN | (FRAGMENT). | , | | (AJ250562) tetraspanin | protein [Homo sapiens] | (AF017790) | retinoblastoma- | associated protein HEC | (AK001832) unnamed | protein product [Homo sapiens] | p116Rip [Mus | musculus] | - |
| blastx.2 | blastx.2 | blastx.2 | | | | blastx.2 | | blastx.2 | | | blastx.2 | | | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | ı | |
| 289 | 290 | 291 | | | | 292 | | 293 | | | 294 | | | | 295 | | 596 | | | 297 | | 298 | • | |
| 998901 | 506866 | 896866 | | | | 999124 | | 999148 | | | 999157 | | | | 999243 | | 999313 | | | 811666 | | 808666 | | |
| НСООР78 | HCGMA67 | HSKHK19 | | | | HAGGR59 | | HOPKS83 | | | HE8CY70 | | | | HPCT153 | | HOPKN50 | | | HAPAI17 | | HHAUV59 | | |

| 992 | 1379 | 645 | 621 | 598 | 692 | 534 | 720 | 994 | | | 854 | | 627 | | | 556 | | | 999 | | | | 237 | | | 621 | | 721 | 423 |
|--------------------|-----------------------|---------|-----|----------------|------------|---------------|----------------------|----------------------|----------------------|--------|-------------------|----------------|---------------------|-----------------------|----------------|--------------------|-----------------------|----------|---------------|-----------------|-----------------|----------------|--------------------|-----------------------|----------|----------------------|----------|----------------|------------------------|
| 699 | 999 | 4 | 481 | 8 | 525 | 475 | 55 | 755 | | | 3 | | 92 | | | 296 | | | П | • | | | 40 | | | 127 | | 398 | 25 |
| 36% | 27% | 79% | 36% | 45% | %99 | %59 | 25% | 36% | | | 100% | | 94% | | | 41% | | | %86 | | | | 48% | | | %66 | | 41% | 33% |
| dbj BAA91897.1 | | | | emb CAA76938.1 | | | emb CAB54870.1 | | | | emb CAB62540.1 | | gb AAF07045.1 AF1 | 76555_1 | | dbj BAA91181.1 | | | gb AAD09608.1 | | | | dbj BAA91241.1 | | | gb AAA36038.1 | | emb CAA76582.1 | |
| (AK001770) unnamed | protein product [Homo | sapiens | | CRAG protein | Drosophila | melanogaster] | (AL117183) conserved | hypothetical protein | [Schizosaccharomyces | pombe] | (AJ387747) sialin | [Homo sapiens] | (AF176555) A-kinase | anchoring protein 220 | [Homo sapiens] | (AK000462) unnamed | protein product [Homo | sapiens] | (AF047002) | transcriptional | coactivator ALY | [Homo sapiens] | (AK000541) unnamed | protein product [Homo | sapiens] | 17-kDa protein [Homo | sapiens] | pol [porcine | endogenous retrovirus] |
| blastx.2 | | | • | blastx.2 | | | blastx.2 | | | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | ٠ | | blastx.2 | | | blastx.2 | | blastx.2 | |
| 299 | | | | 300 | | | 301 | | | | 302 | | 303 | | | 304 | | | 305 | | | | 306 | . • | | 307 | | 308 | |
| 1000315 | | | | 1000339 | | | 1000424 | | | | 1000582 | | 1000669 | | | 1000875 | | | 1001066 | | | | 1001333 | | | 1001695 | | 1061001 | |
| HTXLL31 | | | | HDPUH64 | | | HTTHS93 | | | | HMVCG79 | | HODHK20 | | | HCHM053 | | | HFKKG84 | | | | HOFMT20 | | | HPAMB04 | | HODEK48 | |

| 807 | 701 | 652 | 639 588 | 1041 | 208 | 356 | 342 | 689 | 826 | 106 |
|--------------------------------------|--|---|---|---|-------------------------------------|---|--|--|--|-------------------------|
| 373 | 105 | 23 | 13 40 | 64 | 353 | 3 | <i>L</i> 9 | 57 | 134 | 2 |
| 100% | 100% | 73% | 100% | %86 | %86 | %66 | 100% | 32% | %96 | %58 |
| gb AAA89070.1 | emb CAA48137.1 | dbj BAA91724.1 | dbj BAA91787.1 | emb CAB58438.1 | gb AAA60116.1 | emb CAA93701.1 . | emb CAA31007.1 | dbj BAA82444.1 | emb CAA40940.1 | sp Q9Y6Y5 Q9Y6Y5 |
| S19 ribosomal protein [Homo sapiens] | proliferation associated gene (pag) [Homo sapiens] | (AK001496) unnamed protein product [Homo sapiens] | (AK001610) unnamed protein product [Homo sapiens] | immunoglobulin gamma-2 heavy chain [Homo sapiens] | lysyl hydroxylase [Homo sapiens] | Huntington's Disease (HD) gene [Homo sapiens] | snRNP E protein (AA 1-92) [Homo sapiens] | (AB022660) SET- binding protein (SEB) [Homo sapiens] | immunoglobulin lambda light chain [Homo sapiens] | IDN4-GGTR14 PROTEIN. |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 |
| 1001954 | 1002071 | 1002096 | 1002328 | 1002459 | 1002468 | 1002479 | 1002492 | 1002527 | 1002545 | 1002546 |
| HVVCB28 | HC00S01 | HDACA35 | HOVDG59 | HTJAD78 | HCDCF69 | HPTTW90 | HSUBG36 | HODFU72 | HCNSF57 | HODJU13 |

| 1556 | 755 | 823 247 | 923 | 1408 | 361 | 681 | 176 | 215 | 629 | 831 | 926 | 892 |
|--|---|--|---|---|--|----------------------|---------------|------------|-----|---------------------------------------|---|---|
| 207 | 174 | 407 209 | 153 | 98 | 86 | 244 | n n | 3.6 | 591 | 178 | 323 | 28 |
| %66 | 100% | %16 %29 | 100% | 100% | 100% | %001 | %85 %85 | 51% | 41% | %00T | 100% | 100% |
| dbj BAA11748.1 | gb AAC83802.1 | emb CAB69299.1 | gb AAA35822.1 | emb CAA45089.1 | gb[AAA60280.1] | gb AAA60583.1 | gb AAB24264.2 | | | gb AAA59505.1 | dbj BAA05646.1 | gb AAD15546.1 |
| nuclear protein, NP220 [Homo sapiens] | (AF097441) phenylalanine-tRNA synthetase [Homo sapiens] | unnamed protein product [unidentified] | folate-binding protein precursor [Homo sapiens] | homologue to elongation factor 1- gamma from A.salina [Homo sapiens] | ribosomal protein L37a [Homo sapiens] | RPS16 [Homo sapiens] | HKR-T1 [Homo | formarding | | clathrin light-chain A [Homo sapiens] | proteasome subunit HsC7-I [Homo sapiens] | (AC004983) similar to PID:g3877944 [Homo sapiens] |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | blastx.2 | blastx.2 | blastx.2 |
| 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | | | 328 | 330 | 332 |
| 1002551 | 1002563 | 1002565 | 1002591 | 1002607 | 1002610 | 1002729 | 1002807 | | | 1002811 | 1003155 | 1003224 |
| HODIL25 | HUVHS56 | HPMJQ18 | HLHC146 | HAOSD18 | HACNG47 | HOPJX95 | HSCLR05 | | | HVVAO74 | HVVBK18 | HSCLM55 |

| 1477 | 881 | 513 | 207 | 1084 | 1327 | 459 | 515 | 160 | 143 | 191 | 360 | 259 | 293 | 453 | 683 | 135 | 789 | 1165 | 533 | 1051 | 1060 | 369 | |
|----------------|----------------------|----------------|------|------|------|-----|------------------------------------|-----------------|--------------------|-----|-----|-----|---------------------|----------------|-------------------------|---|------------------------------------|---------------------|-----------------|------------------|------|--------------------|--------------------------------|
| 881 | 504 | 64 | 373 | 878 | 1121 | 343 | 18 | 362 | n | 135 | 265 | 200 | 171 | 277 | 141 | 10 | 1 | \$18 | 135 | 524 | 524 | 22 | |
| %66 | %66 | 73% | 100% | 28% | 79% | 35% | 93% | 41% | 51% | 989 | 51% | 70% | %95 | 38% | 100% | %69 | %06 | 7050 | %9% | 24% | 23% | %18 | |
| emb CAB63754.1 | | | | | | | gb AAC04617.1 | dbj BAA25253.1 | - | | • | | gb AAF29584.1 AF1 | 13685 1 | gb AAC37567.1 | dbj BAA21615.1 | emb CAA52378.1 | 251 A A C 60200 11 | Rolconocord | | • | dbj BAA91675.1 | |
| (AL133630) | hypothetical protein | [Homo sapiens] | | | | | (AF026692) frpHE [Homo saniens] | (AB012223) ORF2 | [Canis familiaris] | 1 | | | (AF113685) PRO0974. | [Homo sapiens] | putative [Homo sapiens] | (AB005878) BYJ15 [Nicotiana tabacum] | DNA primase (p58 subunit) [Homo | (A E027720) Linesin | related protein | [Xenopus laevis] | 1 | (AK001410) unnamed | protein product [Homo sapiens] |
| blastx.2 | | | | | | | blastx.2 | blastx.2 | | | | | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | bloops 2 | Olasia.4 | | | blastx.2 | |
| 333 | | | | | | | 334 | 335 | | | | | 336 | | 337 | 338 | 339 | 240 | 0+6 | | | 341 | |
| 1003706 | | | | | | | 1004480 | 1004583 | | | | | 1004619 | | 1004625 | 1004627 | 1004631 | 1004620 | 100+034 | | | 1004633 | |
| HETJU23 | | | | | | | HNOKB73 | HODFB06 | | | | | HODJA76 | | 09ХГДОН | HODEF10 | HODFB03 | TIME AT A LOS | TIL INITIANO | | _ | норен08 | |

| 758 | 142 | 208 2175 2150 | 236 | 1238 1245 | 1292 | 400 | 963 963 453 | 453 | 444 | 408 | 453 | 453 | 276 |
|--|---|---|---|-------------------------|------------------------------|---|----------------------------------|-----|-----|-----|-----|-----|-----|
| 165 | 405 | 68 1993 2055 | 3 | 435 1204 | 153 | 185 | 1 13 1 | 4 0 | 4 | 4 | 4 | | 4 |
| %86 | 52% | 97% 52% 62% | 100% | %99 %99 | 100% | %08 | %16 89% 57% | 59% | 52% | 28% | 48% | 43% | 92% |
| gb AAC39906.1 | dbj BAA91205.1 | emb CAB52687.1 | dbj BAA91965.1 | emb CAA57684.1 | gb AAA52471.1 | gb AAA52360.1 | pir S26650 S26650 | | | | | | |
| (AF069736) PCAF associated factor 65 beta [Homo sapiens] | (AK000496) unnamed protein product [Homo sapiens] | (AJ010089) GANP protein [Homo sapiens] | (AK001892) unnamed protein product [Homo sapiens] | gpStaf50 [Homo sapiens] | c-fos protein [Homo sapiens] | Ral guanine nucleotide dissociation stimulator [Homo sapiens] | DNA-binding protein 5 - human | | | | • | | • |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | | | | |
| 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | | | | | | |
| 1004635 | 1004643 | 1004648 | 1004660 | 1004887 | 1004950 | 1005153 | 1005236 | | | | | | |
| HEGBF25 | HODJB51 | НОВЕС38 | HODIQ24 | HVVDD56 1004887 | HTHDV01 | HVVDJ95 | HODIY29 | | | | | • | |

| | | | | | | 41% | 1 | 444 |
|---------|---------|-----|----------|---|-------------------|-------------|-----|------|
| | | | | | | 42% | 25 | 441 |
| 1005359 | 6. | 350 | blastx.2 | uridine kinase [Mus musculus] | gb AAB50568.1 | 71% | 309 | 1013 |
| 1005384 | 84 | 351 | blastx.2 | tax1-binding protein TXBP151 [Homo sapiens] | gb AAA75595.2 | 100% | 2 | 1015 |
| 100551 | 511 | 352 | blastx.2 | (AF001628) interactor | gb AAD00897.1 | %16 | 107 | 889 |
| | | | | protein AblBP4 [Homo | | 93% | 107 | 727 |
| | • | | | sapiens] | | 33% | 155 | 889 |
| | | | | | | %88 | 28 | 111 |
| | | | | | | 70% | 069 | 749 |
| | | | | | | 100% | 717 | 737 |
| | | | | | | 100% | 720 | 740 |
| | 7.4 | | | | | 87% | 717 | 740 |
| 9 | 1005843 | 353 | blastx.2 | nuclear autoantigen fo | emb CAB09660.1 | %9 <i>L</i> | 89 | 205 |
| | | | | 14 kDa [Homo sapiens] | | | | |
| 12 | 1005974 | 354 | blastx.2 | (AF072441) | gb AAD40846.1 AF0 | %86 | 2 | 403 |
| | | | | calcineurin binding | 72441_1 | | | |
| | | | | protein cabin 1 [Homo | | | | |
| | | | • | sapiens | | | | |
| 9 | 1006018 | 355 | blastx.2 | (AK001676) unnamed | dbj BAA91829.1 | %66 | 411 | 2081 |
| | | | | protein product [Homo | | - %86 | 40 | 381 |
| | | | | sapiens] | | 54% | 377 | 448 |
| 12 | 1006055 | 356 | blastx.2 | alphal A-voltage- | gb AAB49678.1 | 100% | 435 | 509 |
| | | | | dependent calcium | | | | |
| | | | | channel [Homo | , | | | |
| | | | | sapiens] | | | | |
| 12 | 1006142 | 357 | blastx.2 | SWI/SNF complex 60 | gb AAC50697.1 | %76 | 573 | 1037 |
| | | | | KDa subunit [Homo | | %08 | 136 | 603 |

| 403 | 377 | 773 | 418 | 172 | 699 | 1187 | 505 | 328 | 420 | 626 | 1410 | 533 | 011 |
|---------|-----|-----|-----|--------------------------------------|---|---|--|----------------------------------|--|-----------------|---------------|---------|------|
| 158 | 105 | 999 | 323 | 44 | 4 | 237 | 146 | 2 | - | 3 | 628 | 0.00 | 707 |
| 47% | 37% | 27% | 34% | %16 | 100% | 27% 22% | 82% | 100% | %66 | 64% | 41% | 0,44 | 4070 |
| | | | | gb AAD31938.1 AC0 07055_3 | dbj BAA91430.1 | gb AAC71813.1 | gb AAA20645.1 | gb AAD44480.1 | emb CAB70899.1 | gb AAC69438.1 | | | |
| sapiens | | | | (AC007055) unknown [Homo sapiens] | (AK000927) unnamed protein product [Homo sapiens] | (AE001373) predicted secreted protein [Plasmodium falciparum] | light chain 3 subunit of microtubule-associated proteins 1A and 1B [Rattus norvegicus] | (AF078848) BUP [Homo sapiens] | (AL137735) hypothetical protein [Homo sapiens] | 1(3)mbt protein | homolog [Homo | sapiens | |
| | | | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | |
| | | | | 358 | 359 | 360 | 361 | 362 | 363 | 364 | | | |
| | | | | 1006215 | 1006250 | 1006317 | 1006399 | 1006445 | 1006470 | 1006483 | | | |
| | | | | HOOJT92 | HNORE03 | HPCTS21 | HFATL31 | HE2JE77 | HCBNX87 | HNTDJ68 | | | |

| _ | 221 | 840 | 614 | 294 | 428 | 515 | | 136 | 215 | 17 | | 395 | | | 488 | | 571 | | | 908 | | | 449 | | 1229 | 1294 | | |
|-----|-----|-----|-----|--------------------|-------------|------------------------|----------|--------------------|----------------|---------------|-----------------------|----------------------|------------|--------------------|-----------------------|---------|-----------------------|---------------------|----------------|----------------|---------------------|-------------|--------------------|------------------------|-----------------|------------------------|------------------------|---------------------|
| 631 | 9 | 628 | 459 | 109 | 393 | 06 | | 17 | 126 | 247 | | 514 | | | 426 | | 305 | | | 69 | | | 75 | | 423 | 1220 | | |
| %09 | 25% | 49% | 78% | 33% | 20% | %86 | | %19 | 73% | 83% | 70% | 87% | | 74% | 52% | | 100% | | | 27% | | | %66 | | 35% | 44% | | |
| | | | | emb CAA30276.1 | | gb AAA36547.1 | | gb AAF24054.1 AF0 | 90942_1 | gb AAB66528.1 | • | | | dbj BAA92096.1 | | | gb AAD40006.1 AF1 | 50100_1 | | gb[AAA85705.1] | | | gb AAD34131.1 AF1 | 51894_1 | emb CAB02879.1 | | | |
| | | | | heat shock protein | [Drosophila | ras-like protein [Homo | sapiens] | (AF090942) PRO0657 | [Homo sapiens] | (AF009668) | polyprotein [multiple | sclerosis associated | retrovirus | (AK002129) unnamed | protein product [Homo | sapiens | (AF150100) small zinc | finger-like protein | [Homo sapiens] | SpZ12-1 | [Strongylocentrotus | purpuratus] | (AF151894) CGI-136 | protein [Homo sapiens] | predicted using | Genefinder; Similarity | to Yeast mitochondrial | 1 1 yk432a4.3 comes |
| | | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | | |
| | | | | 365 | | 366 | | 367 | | 368 | | | | 369 | | | 370 | | | 371 | | | 372 | | 373 | | | |
| | | | | 1006512 | | 1006635 | | 1006858 | | 1006943 | | | | 1006953 | | | 1007230 | | | 1007941 | | | 1007976 | | 1008013 | | | |
| | | | | HTRAA05 | | HMTAL96 | | HDTJP21 | | HISEQ81 | | | | HODFH02 | | | HOCPP18 | | | HODFP91 | | | H6EDU06 | | HPCRD26 | | | |

| | 554 | 752 | 1315 | 1023 | 1230 | 1343 | 744 | 1470 | 1188 | 1343 | 792 | 1056 | 396 | 133 | 101 | 407 | | 1206 | | |
|----------------------------------|--|--------------------------------|-----------------------------|------------------------------------|------------------|----------|-----|------|------|------|-----|------|-----|------------------|------------------|-----------------------|----------------|--------------------|--------------|--------------------|
| | 87 | 81 | 131 | 688 | 379 | 1203 | 319 | 1351 | 328 | 1191 | 328 | 856 | 328 | 38 | 3 | 132 | | 286 | | |
| | %59 | 33% | 100% | 84% | 94% | %26 | 40% | 72% | 70% | 35% | 21% | 25% | 39% | %08 | 93% | 76% | , | 100% | | |
| , | gb AAC77358.1 | gb AAA30690.1 | gb AAA65201.1 | gb AAC37598.1 | gb AAB94805.1 | | | | | | | | | dbj BAA21615.1 | sp Q9Y6Y5 Q9Y6Y5 | objAAA88026 11 | | gb[AAB84388.1] | | |
| from this gene; cDNA FST vk432a4 | (AF007791) secreted cement gland protein XAG-2 homolog | PDI (E.C.5.3.4.1) [Bos taurus] | IEF SSP 9502 [Homo sapiens] | guanylate kinase [Homo sapiens] | bicaudal-D [Homo | sapiens] | | | | | | | | (AB005878) BYJ15 | IDN4-GGTR14 | nol gene protein: Xxx | [Homo sapiens] | (AF019386) heparan | sulfate 3-0- | sulfotransferase-1 |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | ٠ | | | | | | | blastx.2 | blastx.2 | blastx 2 | | blastx.2 | | |
| | 374 | 375 | 376 | 378 | 379 | | | | | | | | | 380 | 382 | 383 | } | 384 | | |
| | 1008027 | 1008071 | 1.008154 | 1008179 | 1008299 | | | | | | | | | 1008304 | 1008314 | 1008324 | | 1008325 | | |
| | HSIEH63 | HPASD51 | нсоон27 | HCOPZ14 | HODEC78 | | | | | | | | | HODEF29 | HODEF78 | HODEI 83 | | HHPSH76 | | |

| | | | | | , | | | | |
|--------------------------|-------------------|--------------------------------------|--|---|-----------------------------------|---|--------------------------------------|---|-------------------------|
| | 408 407 | 737 | 558 | 217 71 | 214 341 478 | 405 470 | 104 | .1106 990 1051 | 110 262 |
| | 782 661 | 24 | 1 | 62 | 2 183 341 | 166 387 | 217 323 | 1282 1115 1113 | 3 221 |
| | 29% | 93% | %16 | %69 %99 | 65% 66% 67% | 79% | 55% 55% | 59% 55% 54% | 88% 42% |
| | emb CAA48048.1 | gb AAA35654.1 | dbj BAA13071.1 | dbj BAA91131.1 | gb AAA88038.1 | gb AAA52689.1 | gb AAF24018.1 AF0 90894_1 | dbj BAA91131.1 | sp Q9Y6Y5 Q9Y6Y5 |
| precursor [Homo sapiens] | T2 [Mus musculus] | alternatively spliced [Homo sapiens] | matrix metalloproteinase, MT2MMP [Homo sapiens] | (AK000385) unnamed protein product [Homo sapiens] | unknown protein [Homo sapiens] | Krueppel-related DNA-binding protein [Homo sapiens] | (AF090894) PRO0113 [Homo sapiens] | (AK000385) unnamed protein product [Homo sapiens] | IDN4-GGTR14 PROTEIN. |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 385 | 386 | 387 | 388 | 390 | 391 | 392 | 393 | 394 |
| | 1008326 | 1008327 | 1008332 | 1008335 | 1008337 | 1008345 | 1008349 | 1008350 | 1008358 |
| | HBGBE52 | HBQAB30 | нгнсв31 | HPFDV51 | норед13 | ннрғк16 | HARAL81 | HFTAU42 | HETDA81 |

| HODEI92 | 1008359 | 395 | blastx.2 | (AF062006) orphan G | gb[AAC28019.1] | 45% | 1 | 306 |
|---------|---------|-----|----------|--|-------------------|------|-------|------|
| | | | | protein-coupled | | | | |
| | | | | receptor HG38 [Homo sapiens] | | | • | |
| | 1008379 | 397 | blastx.2 | (AK000385) unnamed | dbj BAA91131.1 | %55 | 236 | 400 |
| | | | | protein product [Homo sapiens] | | 21% | 424 | 546 |
| | 1008396 | 398 | blastx.2 | retrovirus-related pol | pir A26718 A26718 | 36% | 102 | 969 |
| | | | • | polyprotein pseudogene - human 1 | | 28% | 17 | 29 |
| | 1008401 | 399 | blastx.2 | (AL021768) ATP | emb CAA16931.1 | 25% | 1 | 261 |
| | | | | binding protein-like [Arabidopsis thaliana] | | | | • |
| | 1008406 | 400 | blastx.2 | (AJ223782) CDC10 | emb CAA11547.1 | %56 | 374 | 628 |
| | | | | [Mus musculus] | - | 51% | 136 | 375 |
| | | | | • | | 94% | 625 | 829 |
| | 1008423 | 401 | blastx.2 | (AJ237734) ribophorin | emb CAB54801.1 | 100% | 967 | 1273 |
| | | | | II [Homo sapiens] | | 100% | 1404 | 1859 |
| | | | | 1 | | %16 | .1270 | 1404 |
| | | | | | | 39% | 1876 | 1959 |
| | | | | | | 30% | 1145 | 1279 |
| i . | 1008429 | 402 | blastx.2 | IDN4-GGTR14 PROTEIN. | sp Q9Y6Y5 Q9Y6Y5 | 100% | 2 | 85 |
| 1 | 1008445 | 403 | blastx.2 | (AF176818) | gb AAD53289.1 AF1 | %62 | 967 | 692 |
| | | | | transcription factor AP- | 76818_1 | 93% | 3 | 296 |
| | | | | 2 [Silurana tropicalis] | | | | |
| | 1008764 | 404 | blastx.2 | (AF105261) natural | gb[AAD32538.1[AF1 | 100% | 174 | 1268 |
| | | | | killer cell receptor 2B4 [Homo sapiens] | 05261_1 | | • | |
| | 1009017 | 405 | blastx.2 | (AF077038) unc-50 | gb AAD27771.1 AF0 | %16 | 375 | 1151 |
| | | | | | | | | |

| | | | | related protein homolog | 77038_1 | | | |
|---------|---------|-----|----------|-------------------------|----------------|------|-----------------|-----|
| | | | | [Homo sapiens] | | | | |
| HETBR71 | 1009343 | 407 | blastx.2 | (AL049610) | emb CAB55700.1 | %66 | 182 | 658 |
| | | | , | dJ1055C14.1 | | | • | |
| | | | 1 | (transcription | | | | |
| | | | | elongation factor A | | | | |
| | | | | (SII)-like 1) [Homo | | | - 6.4 · · · · · | |
| | | i | | sapiens] | | | - | |
| HE2ES17 | 1009349 | 408 | blastx.2 | CDV-1R protein [Mus | emb CAA71519.1 | %68 | 3 | 914 |
| | | | | musculus] | | | | |
| HELHM06 | 1009362 | 409 | blastx.2 | pre-mRNA splicing | gb AAA36649.1 | 85% | 99 | 349 |
| | | | | factor [Homo sapiens] | | | | |
| HE2ES61 | 1009388 | 411 | blastx.2 | (AC005034) gc-rich | gb AAC82536.1 | 100% | 555 | 427 |
| | | | | sequence dna-binding | | | | |
| | | | | factor [Homo sapiens] | | | | |
| HE2SO43 | 1009398 | 412 | blastx.2 | protein Htf9C [Mus | emb CAA39515.1 | 74% | 73 | 390 |
| | | | | musculus] | | | | |
| HLHCI07 | 1009403 | 413 | blastx.2 | (AL031985) | emb CAB46381.1 | 75% | 127 | ∞ |
| | | | | dJ228H13.1 (similar to | | | | |
| | | | | Ribosomal protein | | | | |
| • | | | | L21e) 1 | | | | |
| HTTBR65 | 1009414 | 414 | blastx.2 | E1A-F [Homo sapiens] | dbj BAA02234.1 | 100% | 55 | 231 |
| HPFCV71 | 1009453 | 415 | blastx.2 | (AK002129) unnamed | dbj BAA92096.1 | %09 | 449 | 622 |
| | | | | protein product [Homo | | | | |
| | | | | sapiens] | | | | |
| HCABR46 | 1009479 | 416 | blastx.2 | BST-2 [Homo sapiens] | dbj BAA05679.1 | %88 | 127 | 423 |
| HCRCB80 | 1009482 | 417 | blastx.2 | OTK27 [Homo | dbj BAA23363.1 | 100% | 96 | 479 |
| | | | | sapiens] | | | | |
| HPMLW78 | 1009833 | 418 | blastx.2 | E2A/PRL fusion | gb AAA36764.1 | %66 | 1 | 909 |
| | | | | | | | | |

| | 123 | 205 416 | 603 | 1155 | 689 | 337 | 608 | 236 | 1435 |
|------------------------|---|-------------------------------------|---|----------------------|--|--|---|--|--------------------|
| | — | 366 505 | 1 | 271 | 09 | 2 | 171 | 63 | 887 |
| | %06 | 35% | %86 | 100% | %69 | 100% | %66 | 100% | 38% |
| | emb CAA06471.1 | gb AAA36589.1 | dbj BAA13443.1 | gb AAA58392.1 | emb CAA42198.1 | emb CAA09425.1 | dbj BAA23735.1 | gb AAC39909.1 | emb CAA86663.1 |
| protein [Homo sapiens] | (AJ005324) glutamate permease [synthetic construct] | ribosomal protein [Homo sapiens] | ribosomal protein L14 [Homo sapiens] | bcl-1 [Homo sapiens] | hypoxanthine (guanine) phosphoribosyltransfer ase [Cricetulus longicaudatus] | (AJ010953) putative Ca2+-transporting ATPase [Homo sapiens] | (AB009282) cytochrome b5 [Homo sapiens] | (AF054175) mitochondrial proteolipid 68MP homolog [Homo sapiens] | weak similarity to |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 |
| | 1009854 | 1009857 | 1009918 | 1009949 | 1010157 | 1010299 | 1010400 | 1010525 | 1010596 |
| | HODJX27 | HODJV85 | H00J038 | HAOSI69 | HSDIY67 | HSDZM65 | нРООС39 | HE2PS15 | HTTKH22 |

| 1561 | 949 | | 1007 | 1071 | 1278 | 12/0 | 730 | 1630 | 1100 | 243 | 775 | 1603 | 1103 | 692 | 1612 | 1612 | 775 | 1600 | 1001 | 709 | 1085 | 1094 | 1097 | 727 | 1088 | 1085 | 1007 |
|------------------------|---------------------------------------|-----------------------|----------------|--------------------|------|---|---------------------|------|------|-----|-----|------|------|-----|------|------|-----|------|------|-----|------|------|------|-----|------|------|------|
| 1442 | 692 | | 003 | 260 | 1203 | 1270 | 236 | 1100 | 735 | | 200 | 1100 | 753 | 203 | 1148 | 1160 | 284 | 1091 | 747 | 302 | 750 | 738 | 747 | 239 | 099 | 747 | 750 |
| 32% | 27% | | /000 | 78% | 1000 | 100/0 | 85% | 77% | 82% | 70% | 23% | 23% | 34% | 25% | 78% | 792 | 27% | 27% | 31% | 19% | 27% | 27% | 30% | 792 | 27% | 22% | 33% |
| | | | 11 A COORDA 11 | go AAC39324.1 | | 200000000000000000000000000000000000000 | dbj BAA19002.1 | | | | | | | | | | | | | | | | | | | | |
| microtubule associated | proteins; cDNA EST 1 1 EMBL:D37339 | comes from this gene; | EMBL:D6742 | SAS [Homo sapiens] | | | AZ-1 [Mus musculus] | | | | | | • | , | | | | , | | | | | | | | | |
| | | | 11004.7 | Diastx.2 | | | blastx.2 | | | | | | | | | | | , | | | | | | | | | |
| | | | 420 | 479 | | , | 430 | | | | | | | | | | | | | | | | | | | | |
| | | | 101000 | 1010098 | | | 1011090 | | | | | | | | | | | | | | | | | | | | |
| | | | 115101033 | HINOJG33 | | | HPDVK48 | | | | | | | | | | | | | | | | | | | | |

| | | | | | | _ | | | | | | | | _ | | _ | _ | | | | | | | | | | |
|------|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|-------------------------------|----------------|---------------|-----------------|----------|-----------------|----------------------|----------------|---|------------------------|----------------|----------|-----------------------|----------------|------------------|
| 1331 | 1061 | 691 | 1106 | 730 | 730 | 249 | 938 | 246 | 673 | 902 | 273 | 1628 | 152 | 234 | 326 | 09 | | 541 | 141 | 623 | | 533 | 205 | | 551 | 123 | 883 |
| 082 | 735 | 305 | 750 | 413 | 413 | 151 | 747 | 106 | 401 | 533 | 26 | 30 | 120 | 7 | 237 | - | | 152 | 97 | 09 | | 240 | 59 | | 72 | 28 | 62 |
| 70% | 23% | 25% | 22% | 27% | 28% | 42% | 32% | 31% | 23% | 25% | 24% | %66 | 54% | 82% | 73% | 35% | | %99 | %99 | %68 | | 43% | 44% | | 46% | 43% | 46% |
| | | | | | | | | | | | | gb AAC50152.1 | | dbj BAA01393.1 | | | | emb CAA71771.1 | | emb CAA68868.1 | | emb CAA61914.1 | | | emb CAA43408.1 | | gb AAC77439.1 |
| | | | | | - | | | | | | | hypoxia-inducible | factor 1 alpha [Homo sapiens] | 2-oxoglutarate | dehydrogenase | precursor [Homo | sapiens] | unnamed protein | product [Bos taurus] | coxsackie and | adenovirus receptor protein [Homo sapiens] | interferon alpha /beta | receptor [Homo | sapiens] | GM2-activator protein | [Homo sapiens] | (AF039584) decay |
| | | | | | | | | | | | | blastx.2 | | blastx.2 | | _ | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 |
| | | | | | | | | | | | | 431 | | 432 | | | | 433 | | 434 | | 435 | | | 436 | | 437 |
| | | | | | | | | | | | | 1011186 | | 1011209 | | | | 1011303 | | 1011315 | | 1011316 | | | 1011321 | | 1011332 |
| | | | | | | | | | | | | HNORJ10 | | HPDRG92 | | | | HOFMQ81 | , | HOFNF27 | | HOFND52 | | | HOFNL96 | | HOFNF53 |

| | | | accelerating factor | | 41% | 1155 | 1706 |
|---------|----------|----------|---------------------------------------|-------------------|------|-------------|------|
| | | | soluble-form precursor; | - | 78% | 161 | 784 |
| | | | CD55 [Rattus | | 32% | 880 | 1101 |
| | | | norvegicus] | | 75% | 66 | 143 |
| 1011360 | 438 | blastx.2 | (AJ009698) embigin protein [Rattus | emb CAA08796.1 | %09 | 377 | 1249 |
| | _ | | norvegicus] | | | | |
| 1011499 | 439 | blastx.2 | (AF061738) leucine | gb AAD17527.1 | %98 | 88 | 582 |
| | <u>.</u> | | aminopeptidase [Homo | | %88 | 602 | 736 |
| | | | sapiens] | | 85% | 20 | 88 |
| | | -18. | | | 25% | 52 | 450 |
| | | | | i | %06 | 576 | 605 |
| 1011537 | 440 | blastx.2 | midkine [Homo sapiens] | dbj BAA01457.1 | 100% | 124 | 552 |
| 1011607 | 441 | blastx.2 | collagen binding | dbj BAA11829.1 | 93% | 224 | 970 |
| | | | protein 2 [Homo | | | | • |
| | | | sapiens | | | | |
| 1011608 | 442 | blastx.2 | collagen binding protein 2 [Homo | dbj BAA11829.1 | %66 | 229 | 1482 |
| | | | sapiens | | | | |
| 1011755 | 443 | blastx.2 | (AF077045) ATP | gb AAD27778.1 AF0 | 100% | 114 | 266 |
| | | | synthase epsilon chain [Homo sapiens] | 77045_1 | | | |
| 1011773 | 444 | blastx.2 | type X collagen [Bos | emb CAA37624.1 | 42% | 202 | 942 |
| | | | [taurus] | | 45% | 235 | 942 |
| | | | | | 52% | 229 | 534 |
| | | | | | 46% | 229 | 537 |
| | | | | | 20% | 202 | 537 |
| | | | ţ | | 46% | 232 | 549 |
| | | | | | 47% | 235 | 537 |

| 534 | 549 | 537 | 537 | 534 | 537 | 537 | 534 | 537 | 534 | 534 | 534 | 750 | 537 | 750 | 534 | 549 | 537 | 277 | 130 | 277 | 248 | | 817 | | | 180 | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------------------------|-------------|----------------|-----------------------|---------|------------------------|--------------------------|-----------------------|
| 229 | 229 | 235 | 232 | 199 | 211 | 235 | 235 | 226 | 235 | 226 | 202 | 235 | 235 | 235 | 232 | 202 | 283 | 53 | 20 | 47 | 75 | | 20 | • | | 4 | | |
| 45% | 45% | 49% | 46% | 45% | 48% | 46% | 46% | 47% | 45% | 44% | 42% | 35% | 45% | 34% | 42% | 40% | 48% | 32% | 20% | 31% | %16 | | 100% | | | %62 | | |
| | | ٠ | | | | | | | | | | | | | | | | | | | emb CAB71156.1 | | emb CAA91556.1 | | | gb[AAB34266.1] | | |
| | | | | | | | | | | | | | | | | | | | | | (AJ271158) DAPIT protein [Rattus | norvegicus] | CLC-7 chloride | channel protein [Homo | sapiens | scleraxis=basic helix- | loop-helix transcription | factor mice, embryos, |
| | | | | | | | | | | | | | | | | | | | | | blastx.2 | | blastx.2 | | | blastx.2 | | |
| | | | | | | | | | | | | | | | | | | | | | 445 | | 446. | | | 447 | | |
| | | | | | | | | | | | | | | | | | | | | | 1011821 | | 1011830 | | | 1011840 | | |
| | | | | | | - | | | | | | | | | | | | | | | HDTMG36 | | HVVCJ38 | | | HPAMY22 | | |

| | | 727 | 692 | · · · · · | | | 425 | | | 905 | | | 1105 | 420 | | | 1236 | 1519 | 1245 | 1257 | 1218 | 1212 | 1459 | 925 | | | 82 |
|-----------------------|------|-----------------------------------|-------------------|-------------------|------------------|--------|--------------------|-----------------------|----------|----------------|----------------------|----------------|--------------------|---------------|----------------|-------------|-------------------|----------|------|------|------|------|------|----------------------|----------------------|----------------|---|
| | | 137 | 72 | • | | | 9 | | | 96 | | | 125 | 64 | · | | 692 | 1202 | 96/ | 992 | 992 | 925 | 1238 | 392 | | | 2 |
| | | 100% | 52% | | | | 94% | | | %66 | | | %26 | 40% | | | 81% | 91% | 31% | 78% | 27% | 24% | 22% | 100% | | | %68 |
| | | gb AAF29114.1 AF1 61499 1 | gb AAF16704.1 AF1 | 17582_1 | | | dbj BAA91124.1 | • | | emb CAB55934.1 | | | gb AAA03587.1 | gb AAA79999.1 | | | gb AAA36771.1 | | | | | | | gb AAA58687.1 | | | emb CAB69195.1 |
| Peptide, 207 aa] [Mus | sp.] | (AF161499) HSPC150 [Homo sapiens] | (AF117582) | calcyphosine-like | protein [Manduca | sexta] | (AK000376) unnamed | protein product [Homo | sapiens] | (AL117452) | hypothetical protein | [Homo sapiens] | TB1 [Homo sapiens] | nnknown | [Saccharomyces | cerevisiae] | tropomyosin [Homo | sapiens] | | | | | | IFN-alpha responsive | transcription factor | [Homo sapiens] | unnamed protein product [unidentified] |
| | | blastx.2 | blastx.2 | | | | blastx.2 | | | blastx.2 | | | blastx.2 | blastx.2 | | | blastx.2 | | | | | | | blastx.2 | | | blastx.2 |
| | | 448 | 449 | | | | 450 | | | 451 | | | 452 | 453 | | | 454 | | | | | | | 455 | | | 457 |
| | | 1011847 | 1011883 | | | | 10111901 | | | 6161101 | | | 1011948 | 1011966 | | | 1012005 | | | | | | | 1012064 | | | 1012136 |
| | `.] | HE9CP86 | HPDOU46 | | | | HFCDW73 | | | HOVEB13 | | | HPAMS93 | HCRBN71 | | | HCRNC60 | | | | | | | HSPSJ24 | | | HOVDZ22 |

| 1306 | 691 | 382 | 834 | 319 | 066 | 310 | 731 | 1716 | 300 443 |
|---------------------------------------|--------------------|---|----------------|---|-----------------------|--|---|----------------------------|--------------------------------------|
| 2 | 101 | 23 601 | 307 | 71 | . 1 | 2 | 3 | 64 | 452 550 |
| 29% | %66 | 33% 27% | 94% | %86 | %26 | %86 | %86 | %66 | 64% 41% |
| gb AAA80488.1 | gb[AAA66351.1] | dbj BAA91635.1 | emb CAA25141.1 | | gb AAA79184.1 | emb CAA94861.1 | emb CAA50574.1 | gb AAA36458.1 | gb AAF22026.1 AF1 18094_21 |
| 100 kDa coactivator [Homo sapiens] | TB2 [Homo sapiens] | (AK001339) unnamed protein product [Homo sapiens] | DC classII | histocompatibility antigen alpha-chain [Homo sapiens] | DNA-PK [Homo sapiens] | inositol 1,4,5- trisphosphate receptor type 2 [Mus musculus] | peroxisomal acyl-CoA oxidase [Homo sapiens] | p78 protein [Homo sapiens] | (AF118082) PRO1902 [Homo sapiens] |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 460 | 461 | 462 | 463 | | 464 | 465 | 466 | 467 | 469 |
| 1012454 | 1012459 | 1012469 | 1012482 | | 1012519 | 1012536 | 1012542 | 1012545 | 1012599 |
| HCONM62 1012454 | HOGEU69 | HVVBD93 | HCOMV86 | | HCONJ23 | HVVBL04 | HVVAF65 | HCONN76 | HODEG95 |

| 1567 | 643 | 602 | 710 | 527 | 1099 | 1701 | | 550 | | | | 2036 | 2856 | 1877 | 2252 | 2015 | 2078 | 2030 | 2021 | 1829 | 2018 | 1877 | 2039 | 1883 |
|-----------------------------|---------------------------------------|-------------------|------------------------|--------------------|----------------|--------------------|--------------------------------|----------------|--------------------|-----------------------|----------------|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 89 | 101 | 2 | 648 | 48 | 44 | 1102 | | 74 | | | | 24 | 2032 | 141 | 123 | 222 | 135 | 117 | 153 | 117 | 126 | 117 | 69 | 126 |
| 100% | %86 | 93% | 52% | 100% | %66 | %66 | | 100% | | | | %56 | %16 | 27% | 22% | 23% | 23% | 22% | 23% | 23% | 22% | 20% | 22% | 10% |
| emb CAA30314.1 | emb CAA53384.1 | emb CAA55046.1 | | emb CAA62013.1 | gb[AAD08640.1] | | | dbj BAA22054.1 | | | | emb CAA53052.1 | | | | | | | | | | | | |
| C1 inhibitor [Homo sapiens] | protein kinase C mu [Homo sapiens] | amiloride binding | protein [Homo sapiens] | NBK [Homo sapiens] | (AF026851) | cytochrome oxidase | assembly factor [Homo sapiens] | (AB006202) | cytochrome b small | subunit of complex II | [Homo sapiens] | giantin [Homo sapiens] | | | | | | | | | | | | |
| blastx.2 | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | , | | blastx.2 | | | | blastx.2 | | | | | | | | | | | | |
| 470 | 472 | 473 | | 474 | 475 | | | 477 | | | | 478 | | | | | | | | | | | | |
| 1012600 | 1012645 | 1012646 | | 1012652 | 1012654 | | | 1012665 | | | | 1012668 | | | | | | | | | | | | |
| HCOOX52 | HVVBK78 | HVVBK73 | | HCOMW3 | HVVBJ28 | | | HVVAF41 | , | | | HVVAS32 | | | | | | | | | | | • | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | _ |
|------|------|------|-----|------|------|------|------|------|------|------|------|------|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------------------|----------------------|--------------|
| 1994 | 2039 | 2622 | 117 | 2700 | 2631 | 2628 | 2625 | 2616 | 2652 | 2538 | 2625 | 2634 | 2622 | 2694 | 2559 | 2715 | 2313 | 2610 | 2628 | 2565 | 2238 | 136 | 3910 | 3901 | 2616 | 3057 | 982 | | |
| 441 | 1281 | 2014 | 43 | 2437 | 2071 | 2125 | 2143 | 2128 | 1987 | 2032 | 2140 | 2206 | 2035 | 2053 | 1987 | 2104 | 2032 | 2065 | 2152 | 2032 | 2080 | 110 | 3779 | 3833 | 2035 | 2905 | 134 | | |
| 77% | 70% | 23% | 84% | 34% | 75% | 70% | 24% | 23% | 73% | 21% | 24% | 70% | 23% | 21% | 24% | 70% | 25% | 19% | 19% | 70% | 78% | 100% | 75% | 43% | 21% | 27% | 100% | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | gb AAB93872.1 | | |
| | | | | | | | | | | | | | | | | | | | | | | | • | | | | voltage dependent | anion channel form 3 | Homo sapiens |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | blastx.2 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 479 | | |
| | | | | | , | | | • | | | | | _ - | | | | | | , | | | | | | | | 1012678 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | HVVAQ70 | | |

| | | _ | | | | | | | | | | Γ | | | | _ | _ | | | | | | |
|----------------------|---|------------------|--|-----------------------|----------|------|------|-----------------|-----------------------------|----------------------|--------------------------------|--------------------|--------------------------------|--------------------|----------------|------|------|------|------|------|------|------|------|
| 573 | 573 | 1990 | 2961 | 1155 | 1306 | 1375 | 1376 | 553 | | 454 | | 653 | | 1605 | 203 | 1389 | 1407 | 1395 | 1605 | 1605 | 1653 | 1615 | 1675 |
| <i>L</i> 9 | 67 | 302 | 2350 | 1 | 1142 | 1310 | 1332 | 113 | | 2 | | 3 | | 205 | 69 | 1186 | 1186 | 1168 | 1195 | 1183 | 1375 | 1313 | 1490 |
| %86 | %86 | %66 | %66 | %66 | 95% | 54% | %09 | 48% | | 100% | | %16 | | %66 | 100% | 43% | 38% | 34% | 78% | 24% | 79% | 23% | 30% |
| gb AAB50715.1 | | gb AAA97878.1 | | gb AAA58391.1 | | | | emb CAA94699.1 | | emb CAB56526.1 | | dbj BAA91330.1 | | gb AAD56725.1 | | | | | | | | | |
| smooth muscle myosin | light chain kinase, smMLCK [C-terminal] 1 1 | specific 116-kDa | vacuolar proton pump subunit [Homo sapiens] | receptor kinase [Homo | sapiens] | | | agpet8 protein. | [Schizosaccharomyces pombe] | (AL035593) dJ310J6.1 | (novel protein) [Homo sapiens] | (AK000703) unnamed | protein product [Homo sapiens] | (AF124727) acinusS | [Homo sapiens] | 1 | | | | | | | |
| blastx.2 | | blastx.2 | | blastx.2 | • | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | | | | | | | |
| 480 | - | 481 | | 482 | | | | 483 | | 484 | | 485 | | 487 | | | | | | | | | |
| 1012684 | , | 1012693 | , | 1012700 | | | | 1012711 | | 1013085 | | 1013213 | | 1013288 | | | | | | | • | | |
| HVVAQ22 1012684 | , | HTAES83 | | HOCMIN67 | | | | HAPOW35 | | HOVJM48 | | HBJHY84 | | HFIAS44 | | | | | | | | | |

| 1112 1207 | 269 538 | 43 675 2 46 | 2 3175 | | · · · · · · · · · · · · · · · · · · · | | | | | |
|-----------|--|--------------------|--|-------------|---------------------------------------|---|-----------------------------------|--|---|---|
| 40% 1 | 100% | 98% 100% | 99% 34% 32% | - | 27% 27% 25% | | | | | |
| | gb AAB53427.1 | gb AAD08657.1 | gb AAC25585.1 | | | dbj BAA91882.1 | dbj BAA91882.1 emb CAA35829.1 | dbj BAA91882.1 emb CAA35829.1 emb CAA30276.1 | dbj BAA91882.1 emb CAA35829.1 emb CAA30276.1 gb AAA59581.1 | dbj BAA91882.1 emb CAA35829.1 emb CAA30276.1 gb AAA59581.1 dbj BAA91205.1 |
| | non-histone g chromosomal protein [Homo sapiens] | (AF071172) HERC2 g | (AF053944) aortic g carboxypeptidase-like protein ACLP [Homo | sapiens] | | (AK001751) unnamed d protein product [Homo sapiens] | | unnamed st [Homo tor 2 s] | lomo | med como |
| | blastx.2 | blastx.2 (| blastx.2 (| | | blastx.2 I | | | | |
| | 488 | 489 | 490 | | | 491 | 491 | 491 492 493 | 491 492 493 494 | 491 492 494 494 495 |
| | 1013349 | 1013436 | 1013524 | | | 1013687 | 1013687 | 1013687 1013740 1013853 | 1013687 1013740 1013853 1014003 | 1013687 1013740 1013853 1014003 |
| | HHAUD68 | HEEAA89 | HNTAK22 | | | HOVBX78 | HOVBX78 HVVAW7 | HOVBX78 HVVAW7 4 HSPSF84 | HOVBX78 HVVAW7 HSPSF84 HPAMV95 | HOVBX78 HVVAW7 HSPSF84 HPAMV95 HOVBX22 |

| 99/ | 775 | 313 | 232 | 2467 | | 1741 | 2434 | 2413 | 1624 | 068 | 123 | 2299 | | 380 | 1061 | 352 | 167 | 480 | 794 | | 158 | 1,00 | 711 | 48 | 1086 | 1206 | 109 | 1106 |
|-----|-----|-----|-----|----------------|--------------------|------------------|-----------------------|----------|------|----------------|----------------|------------------------|---------------|---------------------|---------------|------------------------|-----------------------|-------------------|---------------------|--------------------------|---------------------|---------------------|-----------------------|----------|--------------------|-----------------------|----------|------|
| 47 | 20 | 2 | 7 | 2291 | | 416 | 1535 | 1574 | 536 | 168 | | 83 | | 3 | 429 | 176 | 6 | 352 | 75 | | 378 | 240 | 740 | 110 | 106 | 619 | 35 | 1083 |
| 46% | 46% | %89 | %99 | %86 | | %66 | 85% | 36% | 33% | 100% | 95% | 100% | | 100% | 73% | 77% | 73% | 44% | 100% | | 230% | 7074 | 0.4% | 85% | 100% | 31% | %96 | 100% |
| | | | | emb CAA71575.1 | | gb AAA58683.1 | | • | | dbj BAA32209.1 | | dbj BAA06338.1 | | emb CAA86598.1 | gb AAF13872.1 | | | | gb AAD49745.1 AF1 | 72066_1 | dhilB A A01131 11 | increase (an | | | dbj BAA90992.1 | | | |
| | | | | gpoo-pesny | [Escherichia coli] | interferon-gamma | induced protein [Homo | sapiens] | | (AB014888) MRJ | [Homo sapiens] | glycyl tRNA synthetase | Homo sapiens] | SOX9 [Homo sapiens] | (AF180801) | peroxisomal long chain | acyl-CoA thioesterase | Ib [Mus musculus] | (AF172066) retinoic | acid repressible protein | (AK/000385) unnamed | Dominim (Coccocata) | protein product [Homo | sapiens] | (AK000178) unnamed | protein product [Homo | sapiens] | |
| | | | | blastx.2 | | blastx.2 | | | | blastx.2 | | blastx.2 | | blastx.2 | blastx.2 | | | , | blastx.2 | | hlacty 2 | Diam'r. | | | blastx.2 | | | |
| | | | | 497 | | 498 | | | | 466 | | 200 | | 501 | 505 | | | | 504 | | 505 | 3 | | | 905 | | | |
| | | | | 1014252 | | 1014432 | | | | 1014485 | | 1014646 | | 1014730 | 1014754 | | | | 1014869 | | 1015010 | 0100101 | | | 1015024 | | | |
| | | | | HNHG166 | | HDPPN96 | | | | HPCTH41 | | HPCTY73 | | HCOPQ33 | HOEBR36 | | | | HOEER36 | | HE8OV75 | CAVOOTII | | | HVASI06 | | | |

| • | 1015059 | 207 | blastx.2 | (AK000370) unnamed | dbj BAA91118.1 | . 64% | 3 | 215 |
|-------------|----------|-----|----------|--------------------------------|----------------------------|-------|------|------|
| | | | | protein product [Homo sapiens] | | | | |
| ļ - | 1015093 | 208 | blastx.2 | (AL137756) | emb CAB70908.1 | %66 | - | 615 |
| | , | | | hypothetical protein | | , | | , |
| - | | | , | Homo sapiens | | | | |
| | 1015133 | 509 | blastx.2 | (AK000496) unnamed | dbj BAA91205.1 | %19 | S | 319 |
| | | | | protein product [Homo | | | | |
| HOCOC26 | 1015143 | 510 | blastx.2 | (AE001691) conserved | gb AAD35130.1 AE0 | 40% | 136 | 069 |
| | <u> </u> | | | hypothetical protein | 01691 4 | 41% | 136 | 543 |
| | | | | [Thermotoga maritima] | l | | | |
| HHEDC05 | 1015204 | 511 | blastx.2 | Lipoprotein RlpA | dbj BAA35276.1 | %86 | 867 | 61 |
| | | | | precursor. [Escherichia coli] | | | | |
| HODES86 | 1015304 | 512 | blastx.2 | (AK000385) unnamed | dbj BAA91131.1 | 21% | 125 | 364 |
| | | | | protein product [Homo | | | | |
| ╫ | 1015324 | 513 | blocky 2 | SEPICIES SEPICION W | en[O15522]@EI W H | 7000 | 027 | 1164 |
| - | 1013324 | 213 | OldSLX.2 | SELENOFROIEIN W. | splot 3332 set w_n UMAN | 7070 | 734 | 1104 |
| HVCAC71 1 | 1015343 | 514 | blastx.2 | alcohol dehydrogenase | gb AAA51597.1 | %66 | 41 | 1204 |
| | | | | class III [Homo sapiens] | | | | |
| HSXCO55 1 | 1015360 | 515 | blastx.2 | coronin-like protein | emb CAB11184.1 | 33% | 159 | 971 |
| | | | | Schizosaccharomyces | - | 78% | 1258 | 1575 |
| | | | | [bombe] | | 30% | 2063 | 2428 |
| | | • | | | | 24% | 991 | 1263 |
| | | | | | | 30% | 1533 | 1736 |
| HLWDB78 1 | 1015430 | 516 | blastx.2 | (AK001322) unnamed | dbj BAA91623.1 | %56 | 30 | 602 |
| | | | | protein product [Homo | | 26% | 613 | 681 |

| | 2 | 0 | 2 | 00 | 4 | 4 | 000 | _ | 0 | 4 | + | + | 6 | _ | ~ | | | | | 2 | ~ | ·^ | _ | 6 | + | ~ | _ | 9 |
|----------|---------------------|------------------|-----------------|--------------------|----------------|-------------------|----------------|-----|------|-----|-----|-----|------------------|-----------|-------------------|-----------------------|--------------------|----------------------|----------------|---------------|-----------------|---------|-----|-----|-----|-----|-----|-------------------------------------|
| | 1232 | 1390 | 1362 | 518 | 1054 | 105 | 1018 | 103 | 103(| 102 | 102 | 102 | 549 | 970 | 1152 | | | | | 1175 | 1203 | 51: | .98 | 299 | 28 | 888 | 397 | 546 |
| | 315 | 1232 | 1309 | 282 | 122 | 290 | 467 | 458 | 467 | 473 | 473 | 467 | 139 | 815 | 232 | | | | | 3 | 880 | 30 | 595 | 15 | 63 | 523 | 341 | 340 |
| | %86 | 73% | 77% | 30% | %66 | 42% | 45% | 38% | 37% | 37% | 36% | 34% | 41% | 32% | %66 | | | | | %06 | 37% | 25% | 767 | 30% | 78% | 25% | 47% | 100% |
| | gb AAC77437.1 | | | | gb AAC12944.1 | | • | | | | | | dbj BAA18947.1 | | gb AAF04487.1 AF1 | 48457_1 | | | | gb AAD11988.1 | | | | | | | | gb AAC09069.1 |
| sapiens] | (AF093414) estrogen | response element | binding protein | [Saguinus oedipus] | (AF056191) TPA | inducible protein | [Homo sapiens] | 1 | | | | | P24 protein [Mus | musculus] | (AF148457) | heterogeneous nuclear | ribonucleoprotein, | alternate transcript | [Homo sapiens] | (AC006486) | BC85722 1 [Homo | sapiens | 1 | | | | | (AF001947) U4/U6- associated RNA |
| | blastx.2 | | | | blastx.2 | | | | | | | | blastx.2 | | blastx.2 | | | | | blastx.2 | | | | | | | | blastx.2 |
| | 517 | | | | 518 | | | | | | | | 519 | | 520 | | | | | 521 | | | | | | | | 522 |
| | 1015563 | | | | 1015574 | | | | | | | | 1015620 | | 1015814 | | | | | 1015994 | | | | | | • | | 1016272 |
| | HPCQU04 | | | | HDPAT52 | | | | | | | | HAOSL81 | | HMWIU46 | | | | | HSXCQ19 | | | | | | | | HNOAG06 1016272 |

| | | | | splicing factor [Homo sapiens] | | | | |
|---------|---------|-----|----------|--|------------------------------|--------------------|---------------------|----------------------|
| HE2KN09 | 1016351 | 523 | blastx.2 | (AF095446) syndesmos [Gallus gallus] | gb AAF29566.1 AF0 95446 1 | 75% | 24 | 089 |
| HISDH58 | 1016740 | 524 | blastx.2 | (AF060570) rig-1 protein [Mus musculus] | gb AAD11628.1 | 70% 65% 48% | 69 55 1058 | 1313 210 1222 |
| HSPSB62 | 1016768 | 525 | blastx.2 | (AB016533) nuclear protein containing a WW domain (Npw38) [Homo sapiens] | dbj BAA76400.1 | 100% | 196 | 066 |
| HE2FR37 | 1016939 | 526 | blastx.2 | (AF213393) ATP- binding cassette protein [Mus musculus] | gb AAF31432.1 | 73% | 247 | 726 |
| HBJHU33 | 1017051 | 527 | blastx.2 | (AK001775) unnamed protein product [Homo sapiens] | dbj BAA91901.1 | %66 | 82 | 618 |
| HCOQZ88 | 1017227 | 528 | blastx.2 | (AF027299) protein 4.1-G [Homo sapiens] | gb AAC16923.1 | 100% 47% | 225 | 1196 |
| HNTSV21 | 1017374 | 529 | blastx.2 | seryl-tRNA synthetase [Homo sapiens] | emb CAA62635.1 | 95% | 712 3 | 1008 |
| HNORH33 | 1017461 | 530 | blastx.2 | (AJ132637) ATP-dependent metalloprotease YME1L [Homo sapiens] | emb CAB51858.1 | %66 | 255 | 2063 |
| HUFEF35 | 1017565 | 531 | blastx.2 | precursor polypeptide (AA -21 to 782) [Homo sapiens] | emb CAA33261.1 | 99% 100% 35% | 303 2527 1083 | 2123 3048 1166 |

| 17 139 | 142 240 | 751 924 | | 14 532 | | | 690 824 | 653 685 | 1 597 | 1 633 | | | 23 745 | 143 1327 | 1330 1857 | 1303 1455 | 662 1336 | 34 346 | 1822 1914 | 5 295 | 194 45 | 355 230 | 363 244 | 186 899 | | | 104 436 |
|--------------------|----------------|------------------------|--|--------------------|-----------------------|----------------|-------------------|------------------------|---------------------|--------------------|----------------|--------------|-----------------------------------|----------------------|-----------|-----------|----------|--------|-----------|-------|--------------------|-----------------------|---------|------------------|-------------------------|----------------|--------------------|
| %59 | 45% | 100% | | %88 | | | 100% | 100% 6 | 32% | 30% | | | %66 | 100% | 100% 133 | | 21% 6 | | | 24% | 54% 1 | | 30% 3 | 100% | | | 100% |
| gb AAF22022.1 AF1 | 18094_17 | gb AAC84044.1 | | gb AAD31282.1 AF1 | 34404_1 | | gb AAA18898.1 | | gb AAD41594.1 AF0 | 71081_1 | | | gb AAF29092.1 AF1 61477_1 | emb CAA64447.1 | | | | | | | dbj BAA91120.1 | | | gb AAC64086.1 | | | dbj BAA90881.1 |
| (AF118078) PRO1848 | [Homo sapiens] | (AF092576) translation | initiation factor elf 3 p40 subunit; 1 | (AF134404) delta-6 | fatty acid desaturase | [Homo sapiens] | growth-regulating | protein [Homo sapiens] | (AF071081) proline- | rich mucin homolog | [Mycobacterium | tubercurosis | (AF161477) HSPC128 [Homo sapiens] | zyxin [Homo sapiens] | | | | | | | (AK000372) unnamed | protein product [Homo | sapiens | (AF083385) 30kDa | splicing factor; SPF 30 | [Homo sapiens] | (AK000010) unnamed |
| blastx.2 | : | blastx.2 | - | blastx.2 | | | blastx.2 | | blastx.2 | | | | blastx.2 | blastx.2 | | | | | | | blastx.2 | | | blastx.2 | | | blastx.2 |
| 532 | | 533 | | 534 | | | 535 | | 536 | | | | 537 | 538 | | | | | | | 539 | | | 540 | | | 541 |
| 1017694 | | 1017772 | | 1017801 | | | 1017825 | | 1018032 | | | į | 1018080 | 1018226 | | | | | | | 1018243 | | | 1018459 | | | 1018501 |
| HJPCG39 | | HISBM03 | | HOFAA79 | | | HPRAJ96 | | HBXFX71 | | | | HMVDD8 | HVVDH50 | | | | | , | | HNNBT57 | | | HCONJ11 | | | HCQAW6 |

| 3 | ν | 6 | 7 | | 0 | 4 | 0 | 0 | 9 | 9 | _ | ~ | 3 | 9 | <u>~</u> | | <u>~</u> | <u>~</u> | _ | 6 | | 2 | _ | 7 | 80 | 00 | 00 | 4 | _ |
|-----------------------|----------|---------------------|-----------------|------------------|----------|-------------------|----------------------|-------------------|----------|-----|------|-----|-----|-----|----------|------|----------|----------|-----|------|------|------|------|------|------|------|------|------|------|
| 1293 | 1455 | 105 | 79. | 711 | 810 | 1204 | 2600 | 1800 | 248(| 24 | 123, | 124 | 118 | 115 | 258 | 1147 | 119 | 119, | 120 | 1249 | 253 | 174 | 179] | 126. | 1198 | 178 | 258 | 1204 | 1237 |
| 11.98 | 1381 | 409 | 418 | 394 | 418 | 332 | 1803 | 1204 | 1725 | 19 | 332 | 335 | 341 | 332 | 1803 | 332 | 332 | 332 | 332 | 536 | 1734 | 1204 | 1207 | 1219 | 335 | 1258 | 1794 | 491 | 335 |
| 100% | %96 | %86 | 26% | 47% | 48% | %66 | 100% | 100% | 76% | 63% | 23% | 23% | 25% | 23% | 23% | 22% | 22% | 25% | 23% | 23% | 22% | 23% | 27% | 21% | 22% | 30% | 22% | 23% | 19% |
| | | emb CAA50897.1 | | | | emb[CAB05105.1] | | | | • | | | | | | • | | | | | ` | | | | ` | | | | |
| protein product [Homo | sapiens] | almost identical to | nRNP M protein, | acc.L03532 [Homo | sapiens] | dJ68O2.2 (myosin, | heavy polypeptide 9, | non-muscle) [Homo | sapiens] | | | | | · | | | | | | | | | | | | • | | , | |
| | | blastx.2 | : | | | blastx.2 | | | _ | | | | | | • | | | | | | | | | | _ | | | | |
| | | 542 | | | | 543 | | | | | | | | | | | | | | | | | | | | | | | |
| | | 1018772 | | | | 1018802 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | HVVCY25 | | | | HCOMB65 | | | | | | | | | | | | | | | | , | | | | | _ | | |

| 1824 | 1815 | 470 | 1198 | 919 | 1800 | 1246 | 1773 | 1210 | 1791 | 1788 | 2435 | 1249 | 2477 | 1791 | 2471 | 2489 | 1785 | 1237 | 1794 | 2486 | 2480 | 1800 | 1872 | 1788 | 1776 | 1785 | 1800 | 2462 | 1800 |
|------|------|-----|-------------|-----|------|------|------|------|------|------|------|------|------|------|--|------|------|------|------|------|------|------|---------------|------|------|------|------------|------|------|
| 1291 | 1285 | 138 | 332 | 290 | 1192 | 338 | 1219 | 353 | 1204 | 1219 | 1809 | 320 | 1806 | 1204 | 1806 | 1809 | 1207 | 332 | 1207 | 1881 | 1833 | 1207 | 1219 | 1195 | 1219 | 1339 | 1222 | 1806 | 1210 |
| 23% | 25% | 40% | 22% | 23% | 23% | 22% | 18% | 22% | 25% | 25% | 22% | 23% | 23% | 79% | 23% | 18% | 21% | 18% | 19% | 27% | 22% | 22% | 23% | 70% | 23% | 23% | 79% | 79% | 23% |
| - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 1788 | 1803 | 1767 | 1183 | 1473 | 1440 | 1800 | 228 | 1803 | 237 | 216 | 225 | 401 | 234 | 344 | 1305 | 387 | 294 | 295 | 131 | 349 | 128 | 380 | 861 | | | | | 945 | 717 |
|------|------|------|------|------|------|------|------------|------|-----|-----|------------|-----|-----|-----|------|---------------------|----------------------|--------------------|-----|-----|-----|-----|-----------------------|------------------|----------------------|----------|----------------|-------------------|-----------------|
| 1204 | 1237 | 1189 | 611 | 1228 | 1222 | 1714 | <i>L</i> 9 | 1684 | 115 | 61 | <i>L</i> 9 | 258 | 34 | 249 | 1192 | 121 | 118 | 149 | æ | 284 | 42 | 282 | 151 | | | | | 733 | 1.00 |
| 22% | 23% | 18% | 25% | 722% | 762 | 31% | 35% | 27% | 31% | 78% | 79% | 24% | 19% | 78% | 79% | %85 | . 61% | %69 | 62% | %65 | 23% | 47% | %66 | | | | | 42% | 1771 |
| | | | | - | | | | | | | | | • | | | gb[AAC08737.1] | | | | | | | gb[AAC12956.1] | | | | | emblC 4 4 19575 1 | וזיכוכנשטססוום |
| | | | | | | | | | | | | | | | | (AF010144) neuronal | thread protein AD7c- | NTP [Homo sapiens] | | | | | (AC004537) similar to | tumor suppressor | psylingl; similar to | AF0440/0 | (PID:g2829208) | (AT 023859) trna- | (ALU23037) una- |
| | | | | • | | | | | | | | | | | | blastx.2 | | | | | | | blastx.2 | | | | | blacty 2 | Ulasta.2 |
| | | | | | | | | | | | | | | | | 544 | | | _ | | | | 545 | | | | | 546 | 5 |
| | | | | | | | | | | , | | | | | | 1018907 | | | | | | | 1018943 | | | | | 1010326 | 1017320 |
| | | | | | | | | | | | | | | | | HVVCF30 | | | | | | | HODBV21 | | | | | HCHWD81 | ופעואותטם |

| | | | splicing endonuclease subunit | | 29% | 85 | 423 |
|---------|-------|----------|--|-------------------|------------|------|------|
| | | | [Schizosaccharomyces pombe] | | | | |
| I | 547 | blastx.2 | phosphate carrier | emb CAA42641.1 | 100% | 110 | 1192 |
| 1 | 548 | blastx.2 | (AB012223) ORF2 | dbj BAA25253.1 | 41% | 314 | 209 |
| | | | [Canis familiaris] | | 54% 42% | 71 | 277 |
| 1 | 549 | blastx.2 | (AL035494) | emb CAB44749.1 | %66 | 13 | 570 |
| | | | dJ635G19.2.1 (novel | - | | | |
| | | | protein (isoform 1)) [Homo sapiens] | | | · | |
| 1 | 550 | blastx.2 | (AF161491) HSPC142 | gb AAF29106.1 AF1 | 100% | 134 | 919 |
| | | | [Homo sapiens] | 61491_1 | 99% | 918 | 1255 |
| 1019749 | 551 | blastx.2 | (AC002394) Unknown gene product [Homo | gb AAC05810.1 | 100% | 103 | 468 |
| | | | sapiens | | | | |
| 1019892 | 554 | blastx.2 | (AK000566) unnamed | dbj BAA91259.1 | %86 | 234 | 830 |
| | | | protein product [Homo sapiens] | | | | |
| 1019942 | 555 | blastx.2 | zinc finger protein | emb CAA42610.1 | 48% | 276 | 2075 |
| | | | [Rattus norvegicus] | | 34% | 72 | 731 |
| | | | | | 20% | 1 | 6 |
| | _ | | | | 63% | 86 | 121 |
| ı | 556 | blastx.2 | (AL137618) | emb[CAB70844.1 | %66 | 298 | 1311 |
| | | | hypothetical protein | | 78% | 1146 | 1730 |
| | | | [Homo sapiens] | | 42% | 1871 | 1984 |
| 1020130 | . 557 | blastx.2 | CCAAT-box DNA | gb AAA59930.1 | %001 | -131 | 751 |
| - 1 | | | onding protein subunit | | | | |

| | | | | NF-YB [Homo sapiens] | | | | |
|-------------|---------|-----|----------|--|------------------------------|------|------|------|
| НОСРО73 | 1020180 | 558 | blastx.2 | protein p84 [Homo | gb AAA53571.1 | 93% | 3646 | 2024 |
| • | | | | sapiens] | | %16 | 3881 | 3636 |
| | | | | : | | 100% | 3993 | 3940 |
| | | | | • | | 45% | 1832 | 1758 |
| | | | | | | 37% | 1888 | 1841 |
| HNKDT10 | 1020832 | 559 | blastx.2 | (AF191018) E2IG3 | gb AAF09482.1 AF1 | %66 | 11 | 436 |
| | | | | [Homo sapiens] | 91018_1 | 93% | 426 | 569 |
| HWHG02 5 | 1020841 | 260 | blastx.2 | (AF090942) PRO0657 [Homo sapiens] | gb AAF24054.1 AF0 90942_1 | %89 | 3 | 137 |
| HWMNE3 | 1020852 | 561 | blastx.2 | (AF083384) 45kDa | gb AAC64085.1 | %86 | 169 | 675 |
| | | | | splicing factor; SPF 45 [Homo sapiens] | | | | |
| HUSY175 | 1020878 | 562 | blastx.2 | (AJ242540) | emb CAB62280.1 | 33% | 19 | 684 |
| | | | | hydroxyproline-rich | | 35% | 29 | 624 |
| | | | | glycoprotein DZ- | | 34% | 67 | 624 |
| | | | | HRGP [Volvox carteri | | 32% | 29 | 684 |
| | | _ | | f. nagariensis] | | 34% | 29 | 624 |
| • | • | , | | | | 32% | 29 | 714 |
| | | | | | | 31% | 67 | 969 |
| | | | | | | 32% | 1.9 | 624 |
| | | | | | • | 73% | 64 | 714 |
| | | | | | | 31% | 29 | 654 |
| | | | | | | 30% | 49 | 654 |
| | | | | , | | 78% | 49 | 969 |
| | | | | | | 34% | 184 | 624 |
| | | | | 1 | | 31% | 184 | 783 |
| HSDFS07 | 1020904 | 563 | blastx.2 | (AL033534) | emb CAA22127.1 | 27% | 981 | 118 |
| | | | | hypothetical serine-rich | | | | |
| | | | | Secretary protects | | | | |

| | 305 | 1649 | 937 | 614 | 230 | 268 | 689 | 3 | 339 | 1327 | 950 | 1522 | 1484 |
|-----------------------------|---|-----------------------------------|---|------------------------------|---|---|--|--------------------------------|--|----------|-----|------|------|
| | 183 | 936 | 20 949 | 3 | 159 | 429 | 210 | 209 | 22 1139 | 890 | 417 | 1277 | 1344 |
| | %56 | 100% | 89% 89% | 85% | 100% | 75% | 30% | 100% | 60% 36% | 28% | 24% | 30% | 38% |
| | emb CAB55759.1 | emb CAA80599.1 | gb AAF34240.1 AF0 75704_1 | gb AAD18083.1 AA D18083 | gb AAC59341.1 | dbj BAA91205.1 | emb CAB66159.1 | gb AAA79814.1 | dbj BAA91298.1 | | | | |
| [Schizosaccharomyces pombe] | (AJ245905) HSBP1- like protein [Chlorocebus aethiops] | hnRNP G protein [Homo sapiens] | (AF075704) neuronal glutamine transporter | (AF129756) G4 [Homo sapiens] | (AF038616) small tumor anitgen t-ag [Simian virus 40] | (AK000496) unnamed protein product [Homo sapiens] | (AJ011376) hypothetical protein [Homo sapiens] | ORF_0109 [Escherichia coli] | (AK000633) unnamed protein product [Homo | Capacato | | : | |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | 1 | |
| | 564 | 565 | 995 | 267 | 268 | 569 | 570 | 571 | 572 | | | | |
| | 1021208 | 1021323 | 1021327 | 1021661 | 1021666 | 1021682 | 1021759 | 1021794 | 1022018 | | | | |
| | HCOPC09 | HVVBT22 | HAMFW6 6 | HPMBW8 6 | HOFMK02 | HOUHK71 | HCOOW2 | HACMT02 | HISDS67 | | | | |

| 1232 1372 | 590 682 | 1285 1455 | 1143 1193 | 252 1319 | 1765 2421 | 1316 1585 | | | 1744 1917 | | 1718 1813 | 38 1063 | 2402 2440 | 4 | | 115 435 | 43 222 | | 3 836 | 839 1570 | 101 445 | 33 95 | | 176 1072 | \downarrow | 2 247 | |
|-----------|---------|-----------|-----------|--------------------|-------------------|-----------------------|----------|--------|---------------|--|-----------|--------------------|-----------------------|---------|------------------|------------------------|-----------------|---------|-----------------|------------------------|----------------|-----------------|--------------|-----------------------|----------------------|----------------|----------------------|
| 27% 12 | 48% 5 | 28% 12 | 41% 11 | | 33% 17 | | | 21% 17 | | | | . %/6 | 92% 24 | | | 43% | | | 100% | 100% 8 | 97% | 100% | _ | 99% | | 100% | |
| | | | | gb AAC00620.1 | | | | | , | | • | dbj BAA91548.1 | | | gb[AAA62280.1] | | | | gb AAD01548.1 | | gb[AAC31609.1] | | | emb CAB09725.1 | | emb CAB43242.1 | |
| | | | | (AC002291) Similar | ATP-dependent RNA | Helicase [Arabidopsis | thaliana | | | | , | (AK001197) unnamed | protein product [Homo | sapiens | epidermal growth | factor receptor kinase | substrate [Homo | sapiens | (AF015040) NUMB | protein [Homo sapiens] | (AF081280) | nucleoplasmin-3 | Homo sapiens | ribonuclease HI large | subunit Homo sapiens | (AL050022) | Lumpthotion I market |
| | | • | | blastx.2 | | | | - | | | | blastx.2 | , | | blastx.2 | | | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | |
| | | | | 573 | | | | | | | | 574 | | | 575 | | · | | 276 | | 577 | | | 278 | | 280 | |
| | | | | 1022037 | | | | | | | | 1022059 | | | 1022082 | | | | 1022162 | | 1022167 | | | 1022313 | | 1022663 | |
| | | | | HOVAA59 | | | | | | | | HOCPL72 | | | HCOMIM0 | 5 | | | HLYDC86 | | HTLEP21 | | | HVCAS77 | | HSKJP93 | _ |

| | | | | [Homo sapiens] | | | | |
|---------|---------|-----|----------|--|----------------|-------------------|-----------------|-------------------|
| HAZAA64 | 1022719 | 581 | blastx.2 | predicted using Genefinder; Similarity to Prototheca 1 1 gene; cDNA EST yk386c1.3 comes from this gene; cDNA EST yk38 | emb CAA99938.1 | 43% | 304 | 705 |
| HSEBD72 | 1022904 | 582 | blastx.2 | (AF044773) breakpoint cluster region protein 1 [Homo sapiens] | gb AAC08964.1 | %68 | 164 | 580 |
| HDPYE27 | 1022911 | 583 | blastx.2 | (AF062346) zinc finger protein 216 splice variant 1 [Homo sapiens] | gb AAC42601.1 | 100% | 428 | 1066 |
| HCRQL51 | 1022997 | 584 | blastx.2 | PEG1/MEST [Homo sapiens] | emb CAA72297.1 | 100% | 20 | 1030 |
| HDTCC55 | 1023046 | 285 | blastx.2 | (AL117483) hypothetical protein [Homo sapiens] | emb CAB55956.1 | 33% 35% 42% | 306 4 105 | 533 105 182 |
| НООЈО91 | 1023049 | 286 | blastx.2 | envelope protein [Homo sapiens] | gb AAA88027.1 | 63% | 3 | 530 |
| HCE4K28 | 1023227 | 282 | blastx.2 | (AF021792) Bcl- X/Bcl-2 binding protein [Homo sapiens] | gb AAB72092.1 | %86 | 262 | 750 |
| HPDVY62 | 1023264 | 588 | blastx.2 | DOCK180 protein [Homo sapiens] | dbj BAA09454.1 | %66 | 2 | 1126 |
| HLHDK42 | 1023339 | 589 | blastx.2 | modifier 2 [Mus musculus] | emb CAA40012.1 | 61% 85% | 58 | 300 62 |
| HLDRQ55 | 1023375 | 590 | blastx.2 | coiled-coil like protein | gb AAB61902.1 | %86 | 5 | 388 |

| | 647 | 637 | 313 | 492 | 623 | 1354 | | 1077 | | 507 | | 371 | | 818 | | 1017 | 1300 | 1478 | 1665 | 1070 | 972 | 471 | 417 | 1315 | 510 | 1028 | 818 | |
|------------------|-----------------|------------------------|--------------------|-----------------------|---------|-----------------------|------------------------|-------------------------|----------------|-----------------------|----------------|-----------------------|----------------|--------------------|----------|---------------|-------------------|------------------|------------------|---------------|---------|-----|-----|------|-----|------|----------------------|------------------------|
| | 93 | 1359 | 14 | 319 | 498 | 173 | | 1 | | 157 | | 21 | | 36 | | - | 1160 | 1332 | 1582 | 696 | 88 | 202 | 250 | 1169 | 331 | 696 | 141 | |
| | <i>%L</i> 6 | %96 | %86 | .%96 | %26 | 100% | | 100% | | %26 | | <i>%L6</i> | | 100% | | %96 | 92% | %62 | 100% | %19 | 78% | 33% | 40% | 38% | 36% | 35% | 100% | |
| | gb[AAC17108.1] | | dbj BAA91503.1 | | | gb[AAD05561.1] | | gb AAA61061.1 | | gb AAC41916.1 | | gb AAC41916.1 | | emb CAA39149.1 | | gb AAD01193.1 | | | | | | | | | | • | emb CAA53814.1 | |
| 1 [Mus musculus] | (AF064603) GA17 | protein [Homo sapiens] | (AK001103) unnamed | protein product [Homo | sapiens | (AF104670) cell cycle | protein [Homo sapiens] | chaperonin-like protein | [Homo sapiens] | ribosomal protein L34 | [Homo sapiens] | ribosomal protein L34 | [Homo sapiens] | TREB protein [Homo | sapiens] | (AF006264) | recombination and | sister chromatid | cohesion protein | homolog [Homo | sapiens | 1 | | | | | vacuolar H+ ATPase E | subunit [Homo sapiens] |
| | blastx.2 | - | blastx.2 | | • | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | | | | | | | | | blastx.2 | |
| | 591 | | 592 | | | 593 | | 594 | | 595 | | 965 | | 597 | | 865 | | | | | | | | | | | 599 | |
| | 1023414 | | 1023422 | | | 1023531 | | 1023545 | | 1023584 | | 1023585 | | 1023632 | | 1023837 | | | | | | | _ | | | | 1024000 | |
| | HVVBI06 | | HOCME51 | | | HPDOP74 | | HMSOH12 | | HOPJG50 | | HDUAB04 | 4 | HVCAA38 | | HIBCN87 | | | | | | | | | | | HPCOM04 | |

| 1061 | | 392 | 44 | 1231 | 275 | 1027 | 1112 | 517 | · | | 971 | | | 403 | | | | | | 1225 | | 3 | | | 512 | 99/ | |
|----------------|-------------------------------------|----------------|----------|-------------------|--------------------|--------------------|----------------|----------------|----------------------|----------------|---------------------|-------------------|----------|----------------|------------------------|------------|------------------------|---------------------|-----|------------------|----------------|--------------------|-----------------------|----------|--------------------|----------------------|----------------|
| Ĺ | | ` ′ | | L | ` ` | Ĭ | | | | |) | | | _ | | | | | | 1, | | | | | 7 | | |
| 804 | | 3 | 9 | 200 | 198 | 62 | 1029 | 203 | | | 48 | | | 2 | | | | | | 89 | | 251 | | | 183 | 512 | |
| %86 | | %/6 | .88 | %16 | 21% | %86 | %99 | 100% | | | 100% | | | 36% | | | | • | | %96 | | 64% | | | %86 | 100% | |
| emb CAB53376.1 | | dbj BAA20128.1 | | gb AAB18374.1 | | gb AAB64189.1 | | emb CAB43374.1 | | | emb CAB55628.1 | | | emb CAA21052.1 | | | - | | | dbj BAA36499.1 | | dbj BAA91131.1 | | | gb AAF14859.1 AF1 | 10776_1 | |
| (AL109978) | hypothetical protein [Homo sapiens] | N-WASP [Homo | sapiens] | 39 kDa encoded by | N33 [Homo sapiens] | (AF006084) p41-Arc | [Homo sapiens] | (AL050273) | hypothetical protein | [Homo sapiens] | (AJ249366) epsilon- | COP protein [Homo | sapiens] | (AL031640) | /prediction=(method:"" | genscan"", | version:""1.0"", 1 1 1 | target:SPTREMBL::06 | 087 | (AB015597) hTIM1 | [Homo sapiens] | (AK000385) unnamed | protein product [Homo | sapiens] | (AF110776) adrenal | gland protein AD-003 | [Homo sapiens] |
| blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | • | | blastx.2 | | | blastx.2 | | | | | • | blastx.2 | | blastx.2 | | | blastx.2 | | |
| 601 | | 602 | | 603 | | 604 | | 909 | | | 909 | | | 209 | | | | | | 809 | | 609 | -, | | 610 | | |
| 1024332 | | 1024472 | | 1024556 | | 1024624 | | 1024915 | | | 1025047 | | | 1025102 | | | | | | 1025231 | | 1025327 | | | 1025359 | | |
| HPAME01 | | HTTJS76 | | HCORI57 | | HNORG50 | | HWLVR07 | | | HOPKF60 | | | HBDAD74 | | | | | | HPCTY12 | | HFASF12 | | | HLIBM71 | | |

| HNOKW2 | 1025366 | 611 | blastx.2 | F35C11.4 | emb CAA90244.1 | 30% | 162 | 632 |
|---------|---------|-----|----------|--|----------------|----------------------------|------------------------------|------------------------------|
| 7 | | | | [Caenorhabditis elegans] | | 31% | 743 | 1060 |
| HPFDG48 | 1025526 | 612 | blastx.2 | (AF083242) HSPC024- | gb AAD39840.1 | %88 %88 | 313 | 387 |
| HVVBF24 | 1025712 | 613 | blastx.2 | TRAM protein [Homo | emb CAA45218.1 | 100% | 175 | 1296 |
| HE8UF88 | 1025745 | 614 | blastx.2 | retinoblastoma-binding protein mRbAp48 [Mus | gb AAC52275.1 | 96% | 124 | 1473 |
| HOUBC29 | 1025749 | 615 | blastx.2 | GTP-binding protein (rab2) [Canis familiaris] | gb[AAA30888.1] | 100% | 444 | 719 |
| HOCPY47 | 1025965 | 616 | blastx.2 | (AF055010) unknown [Homo sapiens] | gb AAC09360.1 | 99% | 1567 1337 | 2760 1594 |
| HOVKE20 | 1025990 | 617 | blastx.2 | follistatin-related protein FLRG [Homo sapiens] | gb AAC64321.1 | 100% | 36 | 824 |
| HODBK27 | 1026372 | 619 | blastx.2 | (AF054284) spliceosomal protein SAP 155 [Homo sapiens] | gb AAC97189.1 | 100% | 123 | 497 |
| нЕ8СН59 | 1026805 | 620 | blastx.2 | (AK001093) unnamed protein product [Homo sapiens] | dbj BAA91500.1 | 100% 100% 31% 36% | 1913 1654 1994 2405 | 2632 1848 2689 2755 |
| HSKGR52 | 1026911 | 621 | blastx | putative glycosyl transferase [Schizosaccharomyces pombe] | emb CAB10854.1 | 55% 76% 42% 40% | 488 389 272 92 | 616 439 376 202 |

| | | | | | | | | | | | | | | | | | | | | | | _ | |
|---|-----------------------------------|-----------------------------------|---------------------------------------|---------|---------------|--------------------|---------------------------------|----------------|-------------------|---------------------|------------------------|----------------|-------------------|---------------------|------------------------------|---------------|------------|--------------|--------------------|---------------------|--------------------|------------------------|----------|
| 524 | 378 566 | 1565 | 241 975 | 63 | 1117 | 277 | | 393 | | | | 462 | | | 1004 | | | | <i>L</i> 99 | | | | |
| 54 | 557 601 | 9 | 35 | 7 | 275 | 74 | | 22 | | | | 91 | | • | 123 | | | | 2 | | | | ٠. |
| 74% | 51% 66% | %66 | 78% | 52% | 100% | 100% | | 100% | | | | 100% | | | 730% | 2 | | | %66 | | • | | |
| gb AAD34062.1 AF1 51825_1 | gb AAF29584.1 AF1 13685_1 | gb AAF29040.1 AF1 61553_1 | emb CAA48726.1 | | gb AAC72409.1 | | | emb CAB37641.1 | | | | emb CAB37641.1 | | | αh Δ Δ D 2 7 8 5 1 1 1 Δ Ε 1 | 32552 1 | ı | | gb[AAB37433.1] | - | | | |
| (AF151825) CGI-67 protein [Homo sapiens] | (AF113685) PRO0974 [Homo sapiens] | (AF161553) HSPC068 [Homo sapiens] | S-adenosylmethionine synthetase [Homo | sapiens | (AF102265) N- | acetylglucosamine- | phosphate mutase [Homo sapiens] | (AL031663) | dJ461P17.6 (Major | Epididymis-specific | protein E4 1 1 sapiens | (AL031663) | dJ461P17.6 (Major | Epididymis-specific | (AF132552) | BcDNA.GM01838 | Drosophila | melanogaster | BB1=malignant cell | expression-enhanced | gene/tumor 1 line, | Peptide, 342 aa] [Homo | sapiens] |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | | | blastx.2 | | | | blastx.2 | | | blacty 2 | | | | blastx.2 | | | | , |
| 622 | 623 | 624 | 625 | | 979 | | | 627 | | | | 628 | | | 630 | } | | | 631 | | | | |
| 1026913 | 1026979 | 1027007 | 1027207 | | 1027269 | | | 1027484 | | | | 1027486 | | | 1070101 | 101000 | | | 1029484 | | | | |
| HMUAQ0 5 | HCOMA45 | HE2KI45 | 99ООООН | | HVVAT45 | | | HVCAG18 | | | | HPTXK72 | | | HINTI BOK | | | | HPAMG11 | | | | |

| 1176 | | 1516 | 1429 | 1420 | 1429 | 1899 | 1881 | 640 | 130 | 2158 | 96 | 462 | 2271 | 423 | 2696 | 1092 | |
|------------------------------------|----------------|------------------|----------|------|------|------|------|-----|-----|---------------------|----------|---|--|--|---|--------------------|--------------------------------|
| 52 | | 1097 | 1037 | 1040 | 1094 | 1747 | 1735 | 999 | 74 | 95 | 1 | 349 | 52 | 259 | 279 | 22 | |
| . 100% | | 32% | 35% | 33% | 32% | 45% | 34% | 48% | 36% | %66 | %96 | %98 | %66 | %59 | 100% | %66 | ÷ |
| emb CAB70786.1 | • | emb CAA46283.1 | | | | | | | | dbj BAA07552.1 | | dbj BAA85182.1 | emb CAA49992.1 | gb AAA31142.1 | gb AAC07984.1 | dbj BAA90894.1 | |
| (AL137520) hynothetical protein | [Homo sapiens] | extensin [Volvox | carteri] | | | | | | | ha1025 is new [Homo | sapiens] | (AB033168) nuclear protein ZAP [Mus musculus] | member of DEAD box protein family [Homo sapiens] | valosin-containing protein [Sus scrofa] | (AČ004472) TERA_HUMAN Homo_faniens1 | (AK000031) unnamed | protein product [Homo sapiens] |
| blastx.2 | - | blastx.2 | | | | | | | | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | |
| 632 | | 633 | | | | | | | | 634 | | 989 | 637 | 638 | 639 | 640 | |
| 1030870 | | 1030871 | | | | | | | | 1030963 | | 1031085 | 1031316 | 1031328 | 1031329 | 1031435 | |
| HSDJR27 | | HOCPL33 | | | | | | | | HPCQN80 | | HODFZ16 | HWGAE28 | HOFNZ21 | НООКН25 | HDTIL75 | |

| 99% 9 1751 | - | 100% 512 631 | | | 99% 60 1328 | | | 41% 365 1204 | | | | 100% 379 672 | | | 98% 105 785 | | | | 97% - 260 400 | | Q. | 100% 48 431 | | | 91% 700 801 | |
|---------------------------|---|-------------------|---|-----------------|-----------------------|---------------------------|---------------------|-------------------|--------|-----------------|---------------|-------------------------|-----------------------|----------------|----------------------|------------------|-------------------|----------------|------------------------|-----------------------|----|---------------------|----------------------|----------------|------------------|--|
| gb AAF01278.1 9 | | gb AAD17301.1 10 | | | 25870.1 AF0 | 20797_1 | | emb CAB06436.1 4 | | • | | emb CAA68188.1 100 | | | gb AAC50419.1 98 | | | | dbj BAA91040.1 9′ | - | | emb[CAB41269.1] 100 | | | gb AAB72234.1 9 | |
| (AF168418) activating gbl | signal cointegrator 1 [Homo sapiens] | ıgle- | strand selective monofunctional uracil | DNA glycosylase | (AF020797) AP-mu gbl. | chain family member 207 | mulB [Homo sapiens] | tical protein | Rv0712 | [Mycobacterium] | tuberculosis] | S100 calcium-binding em | protein A13 (S100A13) | [Homo sapiens] | putative T1/ST2 gbl. | receptor binding | protein precursor | [Homo sapiens] | (AK000264) unnamed dbj | protein product [Homo | | | hypothetical protein | [Homo sapiens] | mo | |
| blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | | | blastx.2 | | | blastx.2 | | | | blastx.2 | | | blastx.2 | | | blastx.2 | |
| 641 | | 642 | | | 643 | | | 644 | | | | 645 | | | 646 | | | | 647 | | | 648 | | | 649 | |
| 1031451 | | 1031606 | | | 1031922 | | | 1031988 | | | | 1032475 | | | 1033653 | | | | 1034320 | | | 1034471 | | | 1034539 | |
| HPRSB55 | | HPDPY36 | | | HETF347 | | | HMAMI21 | | | | HC0QQ85 | | | HE2DQ62 | | | | HEBAE89 | | | HKDBF43 | | | HVVCT43 | |

| 841 | 986 | 115 | 974 | 1299 | 435 | 786 | 357 |
|-----|---|-----------------------------------|--|---|---|---|---|
| 908 | 693 | 468 | 93 | 439 | - | 286 | 73 |
| 91% | 48% | 38% | %66 | 100% | %66 | 30% | 32% |
| | gb AAF19993.1 AF2 14634_1 | gb AAA88036.1 | emb CAB60141.1 | gb AAB69324.1 | dbj BAA91872.1 | gb AAD30426.1 AF1 17723_1 | emb CAB01127.1 |
| | (AF214634) polyA binding protein [Homo sapiens] | unknown protein [Homo sapiens] | (AJ246001) spastin protein [Homo sapiens] | (AF013249) leukocyte- associated Ig-like receptor-1 [Homo 1 | (AK001738) unnamed protein product [Homo sapiens] | (AF117723) seed maturation protein PM27 [Glycine max] | predicted using Genefinder; Similarity to Drosophila RNA 1 this gene [Caenorhabditis elegans] |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 650 | 651 | 652 | 653 | 655 | 959 | 657 |
| | 1035435 | 1035602 | 1035988 | 1036583 | 1036973 | 1037108 | 1037131 |
| | HTTDR30 | HODGO46 | HNTTB23 | HVVBV73 | HTEPV42 | HFTCG52 | HKAOB40 |

| HPDVE37 | 1037303 | 658 | blastx.2 | cathepsin C [Homo | emb CAA60671.1 | 100% | 118 | 885 |
|---------|---------|-----|----------|---|----------------------------|------------|------|------|
| HTLES74 | 1037438 | 629 | blastx.2 | GAP-associated protein | pir A38218 A38218 | 74% | 20 | 811 |
| | | | | p190 - rat | | %95 | 681 | 875 |
| | | | | | | 63% | 15 | 152 |
| | | | | | | 41% | 43 | 171 |
| HCORG51 | 1037480 | 099 | blastx.2 | ubiquitin-like protein [Bos taurus] | gb AAB49682.1 | 100% | 150 | 434 |
| HPAMM7 | 1038344 | 661 | blastx.2 | nucleoside-diphosphate kinase [Homo sapiens] | emb CAA68877.1 | %66 | 44 | 520 |
| HKZAT03 | 1038378 | 662 | blastx.2 | endothelial cell growth factor [Homo sapiens] | gb AAA60043.1 | 100% | 114 | 1559 |
| HDQMA8 | 1038717 | 663 | blastx.2 | glutathione S- | gb AAA35934.1 | 100% | 234 | 356 |
| 3 | | ; | | transferase [Homo sapiens] | | 100% | 110 | 235 |
| нуссо82 | 1038718 | 664 | blastx.2 | glutathione S- transferase [Homo sapiens] | gb AAA35934.1 | 100% | 114 | 578 |
| HTGFP54 | 1038915 | 999 | blastx.2 | (AL080156) hypothetical protein | emb CAB45747.1 | 94% | 415 | 525 |
| HBODF41 | 1039017 | 999 | blastx.2 | beta-spectrin [Homo | gblAAA60580.11 | %66 | - | 2172 |
| | | | | sapiens | | 70% | 7 | 2091 |
| | | | | | | 21% | 28 | 2151 |
| | | | | | | 22% | 16 | 2187 |
| | | | | | | 19% | | 2118 |
| | | | | | | 22% | 184 | 2193 |
| | | | | | | %09 | 2127 | 2351 |
| HPAMC60 | 1039290 | 899 | blastx.2 | TRAF4-associated factor 2 [Homo | gb AAD24202.1 U83 194_1 | 100% | 31 | 1242 |

| | 158 616 | 285 1142 | 808 993 1 48 | 54 659 | 135 1649 | 121 1353 | 73 1227 27 125 | 7 564 | | 432 2372 | 1 435 | - | 297 425 | | | | 145 504 |
|---------|---|--------------------------------------|---------------------------------------|------------------------------------|--------------------|------------------------------------|---------------------|----------------|-------------------------------------|---------------|----------------------|--------------------|----------------|-------------------------------------|------------|-------------------|--------------------------|
| | 44% | 100% | 54% 100% | 100% | 100% | 100% | 94% 42% | %86 | | , %66 · | 37% | ↓ | 100% | | | <u></u> | 95% |
| | dbj BAA91513.1 | gb AAC72952.1 | gb AAB81199.1 | emb CAA11683.1 | gb AAC50331.1 | gb AAC04509.1 | gb AAA37536.1 | emb CAB55905.1 | | gb AAA35999.1 | 4,044 | gb[AAC37544.1 | gb[AAC67388.1] | | | gb AAF30180.1 | |
| sapiens | (AK001123) unnamed protein product [Homo sapiens] | (AF091083) unknown [Homo sapiens] | (AC002398) F25965_1 [Homo sapiens] | (AJ223953) hPTTG [Homo sapiens] | P58 [Homo sapiens] | (AF035262) BAF57 [Homo sapiens] | ect2 [Mus musculus] | (AL117404) | hypothetical protein [Homo sapiens] | adenosine | triphosphatase [Homo | NAP [Homo sapiens] | (AF062594) | nucleosome assembly protein [Rattus | norvegicus | (AF214680) C3HC4- | like zinc finger protein |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | blastx.2 | | | blastx.2 | |
| | 699 | 929 | 672 | 673 | 674 | 675 | 929 | 229 | | 878 | | 629 | 089 | | | 681 | |
| | 1039491 | 1039538 | 1039652 | 1039663 | 1039689 | 1039703 | 1039748 | 1039871 | | 1039891 | | 1040384 | 1040385 | | | 1040388 | |
| | HLMHM8 3 | HOUDK70 | HMEFK29 | HAOSK79 | HPDRV42 | HOPJD35 | HTFNP84 | HTHDT76 | | HSYEC21 | | HKGC025 | HNOJN70 | | | HADFS31 | |

| 682 blastx.2 no | nhep | nonhepatic arginase | dbj BAA13158.1 | 100% | 113 | 661 |
|-----------------|---------------------|--|------------------------------|------------|------|------------|
| 683 | blastx.2 (AK000 | (AK000897) unnamed | dbi BAA91413.1 | 47% | 303 | 557 |
| | | protein product [Homo sapiens] | | | | |
| 684 þlas | blastx.2 thioesters | thioesterase II [Homo sapiens] | emb CAA60024.1 | 63% | 84 | 527 |
| 685 blastx.2 | | zinc-finger helicase [Homo sapiens] | gb AAC39923.1 | 91% | 277 | 289 |
| 686 blastx.2 | | tumor susceptibility protein [Homo sapiens] | gb AAC52083.1 | 100% | 110 | 922 |
| 687 blastx.2 | _ | (AK001550) unnamed | dbj BAA91751.1 | 63% | 1001 | 654 |
| | protein sapiens] | protein product [Homo sapiens] | | 31% | 505 | 398 618 |
| 688 blastx.2 | | protein of unknown function [Homo | gb AAA63232.1 | %96 | 355 | 999 |
| 689 blastx.2 | | 5855) anon2A5 phila gaster] | gb AAB81486.1 | . 26% | 20 | 415 |
| 690 blastx.2 | | protein antigen [synthetic construct] | emb CAA01182.1 | 100% | 539 | 1384 |
| blastx.2 | | bcn92 [Drosophila subobscura] | emb CAB55311.1 | 25% | 226 | 474 |
| 692 blastx.2 | | (AF161479) HSPC130 Homo sapiens] | gb AAF29094.1 AF1 61479 1 | 94% | 3 | 356 |
| 693 blastx.2 | | NF-AT3 gene product | gb AAA79175.1 | 100% | 111 | 428 |
| | OTTOTY | [supposed] | | 36% | 421 | 612 |

| 586 | 3432 | 338 | 2256 | 637 | | 494 | 852 | 870 | 48 | 138 | 225 | 629 | 629 | 629 | 629 |
|-----|---|-------------------------------------|-------------------------------|---------------------------|---|---|--|---|----------------------|------------|-----|-----|-----|-----|-----|
| 455 | 259 | 174 | 2717 | 188 | | 180 | 52 | 301 | 632 | 504 | 620 | 742 | 790 | 790 | 790 |
| 40% | 100% | %59 | %56 | 40% | | 100% | 100% | 100% | 31% | 33% | 34% | 23% | 39% | 36% | 39% |
| , | gb AAA61246.1 | gb AAD15797.1 | dbj BAA03074.1 | gb AAA76738.1 | | emb CAA54687.1 | emb[CAA30678.1] | dbj BAA19122.1 | pir A24264 A24264 | | | | | | |
| | ubiquitin-activating enzyme E1 [Homo sapiens] | (AF055470) ZNF258 [Homo sapiens] | Mel-18 protein [Homo sapiens] | unknown [Homo sapiens] | | ATL-derived factor/thioredoxin [Homo sapiens] | pre-pump-1 proteinase (AA -17 to 250) [Homo sapiens] | (AB000468) zinc finger protein [Homo sapiens] | proline-rich protein | (fragment) | | | | | |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | | | | |
| | 694 | 969 | 969 | 869 | | 669 | 701 | 702 | 703 | | | | | | |
| | 1042462 | 1042649 | 1042859 | 1042951 | · | 1043273 | 1043532 | 1043553 | 1044199 | | | | | | |
| | HSPS142 | нРDQD23 | HWMBA1 0 | HETKL27 | | HPCTH04 | HVVBM94 | HVVBC43 | HTPDM31 | | | | | | |

| 662 | 662 | 439 | 93 | | 834 | | | 968 | | | 1738 | 493 | | 1657 | 1319 | | 1269 | 932 | 260 | 614 | 593 | | 855 | | 1067 | 1174 | 558 | , | ., |
|-----|-----|----------------------|------------------|----------------|---------------------|--------------------|-------------------------|----------------|--------------|-----------|---------------------|-------------|---------------|-----------------|--------------------------|----------------|-------------------------|----------------------|-----------------------|-------------------------|----------------------|----|---------------------|----------------|-------------------|------------------------|----------------|----------------------|----------------|
| 790 | 790 | 53 | _ | | 424 | | | 3 | | | 749 | 20 | | 1316 | 1101 | | 940 | 465 | 9 | 315 | 450 | | 160 | | 309 | 1067 | 34 | | |
| 41% | 38% | %68 | 48% | | 72% | | | %LL | | | 45% | 47% | | %89 | 73% | | <i>%LL</i> | 41% | 25% | 21% | 31% | | 100% | | 100% | %26 | %96 | ٠ | |
| | | dbj BAA05923.1 | | | gb AAD17989.1 | | | gb AAB17729.1 | | | gb AAC14192.1 | | | gb AAF31432.1 | | | gb AAB00699.1 | | | | | | gb AAC13881.1 | | gb AAD34056.1 AF1 | 51819_1 | emb CAB53709.1 | | |
| | | similar to Human Sp2 | protein (M97190) | [Homo sapiens] | (AF106473) leucine- | rich-domain inter- | acting protein 1; LeR 1 | CTP synthetase | homolog [Mus | musculus] | D-E-A-D box protein | [Drosophila | melanogaster] | (AF213393) ATP- | binding cassette protein | [Mus musculus] | coded for by C. elegans | cDNA yk34b1.5; coded | for by C. elegans 1 1 | coded for by C. elegans | cDNA yk46e8.3; coded | fo | adenylate kinase 2B | [Homo sapiens] | (AF151819) CGI-61 | protein [Homo sapiens] | (AL110271) | hypothetical protein | [Homo sapiens] |
| | | blastx.2 | | | blastx.2 | | • | blastx | | | blastx.2 | | | blastx.2 | | | blastx.2 | | | | | | blastx.2 | | blastx.2 | | blastx.2 | | |
| | | 704 | | | 705 | | - | 902 | | | 202 | | | 708 | | | 709 | | | | | | 710 | | 711 | | 712 | | |
| | | 1044577 | | | 1044618 | | | 1044635 | | | 1044711 | | | 1044741 | | | 1044760 | | | | | | 1044762 | | 1044769 | | 1044821 | | |
| | | HSQEK12 | | | HPDRZ16 | | | HVCBC44 | | | HPIAC22 | | | HSODA53 | | | HE9ML74 | | | | | | HPDRB76 | | HSYDI55 | | HOGCI31 | | |

| 1.0 | 1 | | Τ | | | _ | | | | | | | | | | | |
|--------------------|----------------|----------------------|-------------------|----------------|--------------------|-------------------|----------------|----------|--------------------------|----------------------|---------------------|-----------------------|--------------------|---------------|--|---|--|
| 575 | 1538 | | 444 | | 858 | 1013 | | | 1640 | | 1135 | 952 | 2368 | 882 | 173 | | 1220 |
| 303 | 537 | | 127 | | 124 | 765 | | | 120 | | 2 | 7 | 1007 | 865 | 24 | *************************************** | 528 |
| 100% | 100% | | 100% | | %68 | 100% | | | %66 | | 49% | 25% | 27% | 83% | %96 | | %66 |
| gb AAD40380.1 | emb CAB55903.1 | | gb AAA36589.1 | | emb CAA15888.1 | | | | emb CAA73319.1 | | gb[AAD12254.1] | | | | dbj BAA07206.1 | | dbj BAA91390.1 |
| (AF092138) HSPC033 | (AL117402) | hypothetical protein | ribosomal protein | [Homo sapiens] | (AL020993) dJ506.1 | (casein kinase 1, | epsilon) [Homo | sapiens | transducin (beta) like 1 | protein momo sapiens | (AF099028) putative | transmembrane protein | cmp44E [Drosophila | melanogaster] | beta-signal sequence receptor [Homo sapiens] | | (AK000826) unnamed protein product [Homo |
| blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | _ | | blastx.2 | | blastx.2 | | | | blastx.2 | | blastx.2 |
| 713 | 714 | ····· | 715 | | 716 | | - | i | 717 | 3 | 7.18 | | | | 722 | | 724 |
| 1044893 | 1045117 | | 1045379 | | 1045464 | | | 10101 | 1045500 | | 1045842 | | | | 1046856 | | 1047137 |
| HNOKX86 | HTPHG81 | | HPCTV49 | | HHGDK68 | | | 20.01.01 | HNOKM3 | 0 | HHFCN47 | | | | HE9E382 | | HODHS68 |

| | 814 | 982 | 586 | 786 | 892 | 505 | 935 | 687 | 554 | | | | 700 | | 1004 | 1479 | 21.6 | 1119 | 1432 | 401 | | | 2463 | | | 445 | |
|----------|--------------------|--|-----------------------|-----------------------|----------------|-----|-----|-----|-----------------|------------|-----------------|----------|--------------------|--------------------|----------------|----------------------|----------------|------|----------------------|---------|----------------------|--------|----------------|----------------------|----------------|-------------------|--------------------|
| | 335 | 124 | 206 | 286 | 770 | 107 | 762 | 589 | 114 | | | | 191 | | 66 | 196 | 939 | 1081 | 209 | 141 | | | 754 | | | 99 | |
| | 100% | %001 | 100% | 94% | 78% | 79% | 38% | 30% | 25% | | | | %86 | | %66 | %96 | 46% | 46% | 36% | 30% | | | 100% | | | 100% | |
| | gb AAA18537.1 | gb AAF00499.1 AF1 82844 1 | gb AAB69312.1 | | | | | | emb CAB04731.1 | - | | | emb CAA31134.1 | | dbj BAA92312.1 | | | | emb CAB11047.1 | | | | emb CAB75652.1 | | | gb AAD38498.1 AF1 | 16272_1 |
| sapiens] | p23 [Homo sapiens] | (AF182844) VPS28 protein [Homo sapiens] | (AF011792) cell cycle | progression 2 protein | [Homo sapiens] | • | | | predicted using | Genefinder | [Caenorhabditis | elegans] | OŘF X (AA 1 - 393) | [Escherichia coli] | (AB034912) WD- | repeat like sequence | [Homo sapiens] | | putative RNA-binding | protein | [Schizosaccharomyces | pombe] | (AL157427) | hypothetical protein | [Homo sapiens] | (AF116272) T-cell | activation protein |
| | blastx.2 | blastx.2 | blastx.2 | - | | | | | blastx.2 | | | | blastx.2 | | blastx.2 | | | | blastx.2 | | | | blastx.2 | | | blastx.2 | · |
| | 725 | 726 | 727 | | | | | | 728 | | | | 729 | | 730 | | | | 731 | | | | 732 | | | 733 | |
| | 1047169 | 1047212 | 1047381 | | | | | | 1047403 | | | | 1047473 | | 1047483 | | | | 1047634 | | | | 1047646 | | | 1047663 | |
| | HOPKT59 | HMCFK45 | HPIAN63 | | | | | | HNSME49 | | | | HWEAC64 | | носоты | | | | HOPKE15 | | | | HMAEL73 | | | HINOKE42 | |

| 1047670 |
|--------------|
| |
| |
| 736 blastx.2 |
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| 737 blastx.2 |
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| 738 blastx.2 |
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| 739 blastx.2 |
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| 740 blastx.2 |
| 741 blastx.2 |
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| 742 blastx.2 |
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| 743 blastx.2 |
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| 8/CI | 1233 | 710 | 2377 1180 1944 310 | 805 | 1861 530 | 1429 | 611 |
|--|--|---|-----------------------------------|---|---|--|---|
| | | | | | 1 | ř | |
| 208 | 436 | 33 | 3258 1452 2039 327 | 173 | 1154 408 | 11 | 516 |
| %66 | %66 | 95% | 39% 28% 45% 100% | 100% | 47% 46% | 100% | 100% |
| gb AAB71339.1 | gb AAF05313.1 AF1 77385_1 | gb AAA21254.1 | gb AAA88038.1 | gb AAD16433.1 | emb CAB45750.1 | emb CAA69941.1 | emb CAA94801.1 |
| prolyl 4-hydroxylase alpha (II) subunit | (AF177385) cytochrome c oxidase assembly protein isoform 2 [Homo | sapiens] signal peptidase complex 25 kDa subunit [Canis familiaris] | unknown protein [Homo sapiens] | (AF101051) senescence-associated epithelial membrane protein [Homo sapiens] | (AL080159) hypothetical protein Homo sapiens] | serine palmitoyltransferase, subunit I [Homo | Similarity to yeast hypothetical protein PIR accession number |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 |
| 1048635 | 1048658 | 1048739 | 1048792 | 1049151 | 1049372 | 1049466 | 1049644 |
| HSPSI76 | нуусн35 | HOFNI66 | HMSKI90 | HSYBI49 | HTXSN37 | HMUBT31 | HFPDO90 |

| | | 3 1139 7 1504 | 1 670 | | | | 2 1186 | | | 3 2415 | | | | | | | 1 1273 | 8 2738 | | | | | 7 3136 | | 9 2983 | 1 1300 | 3 416 |
|---------------------|---|---------------------------------|----------------------|------------------------|----------------------|----------------------|-----------------------|----------------|---------|-------------------|-------------|------------------|----------|-----------|--------------------|----------|--------------------|---------------------|----------------|--------|-----|-----|---------|-----|--------------|------------------|-----------------|
| | | 213 | 11 | | | | 212 | | | 643 | | | | | | | 161 | 1818 | | 121 | | | <u></u> | | 2939 | 371 | |
| | | 95% | 100% | | | | 100% | | | %66 | | | | | | | 100% | %66 | %26 | 53% | 31% | 32% | 40% | 28% | 46% | %86 | %96 |
| | | emb CAA00829.1 | emb CAB42866.1 | | | | gb AAA36043.1 | | ì | sp Q16236 NFL2_HU | MAN | | | | | | gb AAB58075.1 | dbj BAA08565.1 | | · | | | | | | gb AAC39776.1 | |
| 1 1 this gene; cDNA | EST yk504c7.3 comes from this gene; cDN | urokinase [synthetic construct] | (AL031733) dJ455J7.1 | (cellular repressor of | E1A-stimulated genes | CREG) [Homo sapiens] | interferon regulatory | factor 1 [Homo | sapiens | NUCLEAR FACTOR | ERYTHROID 2 | RELATED FACTOR 2 | (NF-E2 1 | ERYTHROID | DERIVED 2, LIKE 2) | (HEBP1). | ESX [Homo sapiens] | DNA binding protein | [Homo sapiens] | i I | | | | | | (AF016903) agrin | precursor [Homo |
| | | blastx.2 | blastx.2 | | | | blastx.2 | | | blastx.2 | | | | | | | blastx.2 | blastx.2 | | | | | | | | blastx.2 | |
| | | 752 | 753 | | | | 754 | • | | 755 | | | | | | | 756 | 757 | | - | | | | | _ | 758 | |
| | | 1050102 | 1050167 | | | | 1050256 | | | 1050282 | | | | | | | 1050419 | 1050536 | | | | | | | | 1050553 | |
| | | HVVCB79 | HDPGR19 | | | | HVVDX63 | | | HNOJA87 | | | | | | | HTPGI65 | HHFGN14 | | | | | | | | HTAIN76 | |

| 1252 | 1291 | 416 | 440 | 721 | 557 | 430 | 999 | 198 | 1331 | 38 | 648 | 196 | 557 | 597 | | | 574 | 672 | 569 | 100 | 598 | 403 | | | 522 | 747 | 624 |
|----------|------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|------------------------------|--------------------------|--------------------|---------|------------------------|------------|--------------------|---------------------|---------------------------------|----------------|-----------------------|--------------|---------------------|---------|-----|
| 614 | 614 | 3 | m | 386 | 426 | 86 | 465 | 19 | 1125 | m | 541 | 155 | 42 | 196 | | | 188 | 571 | 174 | 1,0 | 245 | 99 | - | | 244 | 53 | 385 |
| 36% | 32% | 45% | 31% | 38% | 40% | 76% | 32% | 35% | 27% | 28% | 40% | 28% | 100% | %56 | | | 91% | 45% | 85% | ,000 | %66 | 100% | | | 82% | %96 | 53% |
| | | -, | | | | | | | | | | | emb CAA51467.1 | gb AAB17261.1 | | | gb AAC78495.1 | | gb AAF36134.1 AF1 | 31040 1 | dbj BAA05167.1 | gb AAB84248.1 | , | | emb CAA57478.1 | | |
| sapiens] | | | | | | | | | | | | | caltractin [Homo sapiens] | serine/threonine protein | kinase Krs-1 [Homo | sapiens | annexin I [Oryctolagus | cuniculus] | (AF151048) HSPC214 | เกิดเกิด รสุกเคเเรา | V-1 protein [Rattus norvegicus] | (AF028823) Tax | interaction protein 1 | Homo sapiens | p0071 protein [Homo | sapiens | |
| | | | | | | | | | | | | | blastx.2 | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | blastx.2 | | | blastx.2 | | |
| | | | | | | | | | | | | | 759 | 760 | | | 761 | | 762 | | 763 | 764 | | | 765 | | |
| | | | • | | | | | | | | | | 1050702 | 1050767 | | | 1050969 | | 1051095 | | 10511115 | 1051246 | | | 1051256 | | |
| | | | | | | | | | | | | | HLYB089 | HMEKJ82 | | | HOFNX17 | | HAOSY21 | | HMWDB3 | HAOSZ53 | | | HSODP14 | | |

| 580 | 300 | 152 | 159 | 860 | 527 | 539 | 9/9 | 360 | 661 | 865 | 658 | 1377 | 82 | 3250 | 705 | 2952 | 699 | 2094 | 899 | 896 | 583 |
|-----|-----|-----|--------------------|--------------------------------|--------------------|--------------------------------|-----------------------|----------------------|-----------|-----|-----|---|--------------------|------------------|----------------|------|-----|---|--|------------------------------|------------------------------------|
| 452 | 187 | 84 | 413 | 988 | 18 | 246 | 362 | 175 | 365 | 353 | 365 | 94 | 5 | 3194 | 640 | 2905 | 209 | 184 | 93 | 18 | 20 |
| 39% | 34% | 43% | 64% | 77% | 100% | 37% | 100% | %98 | 21% | 21% | 38% | 100% | %59 | 47% | 40% | %95 | 45% | 100% | 100% | %96 | 100% |
| | | | dbj BAA91205.1 | | dbj BAA90946.1 | | gb[AAB60490.1] | | | | | emb CAB63856.1 | emb CAA92991.1 | • | | | | emb CAA24748.1 | gb AAD34108.1 AF1 | gb[AAA59925.1] | emb CAB43305.1 |
| | , | | (AK000496) unnamed | protein product [Homo sapiens] | (AK000101) unnamed | protein product [Homo sapiens] | cellular nucleic acid | binding protein [Mus | musculus] | 1 | | (AJ251914) putative RNA helicase [Sus scrofa] | Huntington Disease | (HD) gene exon 1 | [Homo sapiens] | | | mannitol permease [Escherichia coli] | (AF151871) CGI-113 profein [Homo saniens] | neurofibromin [Homo sanjens] | (AL050169) hypothetical protein |
| | | | blastx.2 | | blastx.2 | | blastx.2 | | | | | blastx.2 | blastx.2 | | | | | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | | | 992 | | 192 | | 892 | | | | | 692 | 770 | | | | | 771 | 772 | 773 | 774 |
| | | | 1051319 | | 1051410 | | 1051437 | | | | | 1051533 | 1051883 | | | • | ţ | 1051903 | 1051953 | 1051983 | 1052158 |
| | | | HWLXZ72 | | HUSGQ45 | | HLDRA54 | | | | | HNOJR48 | HKIXH35 | | | | | ннев 192 | HPTGB84 | HVCCD05 | HPYSC40 |

| 2631 1813 889 | 653 518 521 | 610 | 532 | 220 587 431 | 869 | 808 |
|-------------------------------------|---|---------------------|---|--|--|---|
| 1804 1301 815 | 39 42 42 | 95 | 374 | 77 486 387 | 150 | 164 |
| 99% 100% 60% | 66% 28% 27% | 100% | %06 | 100% 48% 53% | 100% | 100% |
| dbj BAA24179.2 | gb AAB59189.1 | dbj BAA11212.1 | dbj BAA20422.1 | emb CAA72272.1 | gb AAA79920.1 | gb AAA91892.1 |
| (AB002405) LAK-4p [Homo sapiens] | pumilio protein [Drosophila melanogaster] | CIRP [Homo sapiens] | heparan sulfate 2- sulfotransferase [Cricetulus longicaudatus] | phosphoenolpyruvate carboxykinase (GTP) [Homo sapiens] | microfibril-associated glycoprotein [Homo sapiens] | casein kinase-II beta [Oryctolagus cuniculus] |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 785 | 786 | 787 | 788 | 789 | 790 | 791 |
| 1053236 | 1053369 | 1053547 | 1053548 | 1053585 | 1053725 | 1053746 |
| HACMU05 1053236 | HOVDF79 | HVVBJ54 | HOFMUSO | HE9MO38 | HOPJF55 | HAOTD13 |

| 2334 | 1614 | 1063 | 2332 | 1403 | 2380 | 1119 | 89 | 1101 | 1173 | 777 | 873 | 110 | 204 | 169 | 919 | 46 | | 722 | |
|------------------------------|---|---------------------------|---------------------|------|------|------|-----|------|------|---|---|-----------------------|----------------|-----|----------------------|------------------|----------------------|------------------|---|
| 1 | 178 | 2 | 20 | 639 | 1871 | 883 | 36 | 754 | 952 | 25 | 226 | 15 | 160 | 128 | 152 | 2 | | c | |
| %86 | %66 | %66 | %68 | 46% | 31% | 36% | %06 | 31% | 37% | %86 | 100% | %06 | 62% | 35% | %66 | %99 | | 87% | |
| emb CAA57478.1 | gb AAC23797.1 | gb AAA16256.1 | gb[AAC17708.1] | | , | | | | | dbj BAA77671.1 | gb AAA36601.1 | dbj BAA13194.1 | | | gb[AAB62723.2] | | | gb AAD19818.1 | í |
| p0071 protein [Homo sapiens] | (AF058448) herpesvirus entry protein B [Homo sapiens] | drebrin E2 [Homo sapiens] | p160 [Homo sapiens] | | | | | | | cytochrome c oxidase subunit 3 [Homo sapiens] | secreted cyclophilin- like protein [Homo sapiens] | similar to mouse CC1. | [Homo sapiens] | | (AF005038) secretory | carrier membrane | protein Homo sapiens | (AC007059) Human | homolog of Mus musculus wizL protein |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | ٠ | | | | blastx.2 | blastx.2 | blastx.2 | | | blastx.2 | | | blastx.2 | |
| 793 | 794 | 795 | 962 | | | | | | • | 798 | 799 | 800 | | | 801 | | | 802 | |
| 1053973 | 1054015 | 1054085 | 1054122 | | | | | | | 1054196 | 1054230 | 1054235 | | | 1054288 | | | 1054400 | |
| HOCPT34 | HFKHC64 | НОРКО37 | HNBVO53 | | | | | | | нсоро11 | HTFML39 | HOGCR32 | | | HFCDL60 | | | HODEC13 | |

| | | | | [AA 4-1561] [Homo sapiens] | | | | |
|---------|---------|-----|----------|---|-------------------|------|------|------|
| HUSYA18 | 1054451 | 803 | blastx.2 | DNA/RNA-binding | gb AAA75623.1 | %68 | 35 | 553 |
| | | | | protein [Homo sapiens] | | 78% | 161 | 484 |
| | | | | | | %91 | | 39 |
| | | | | | | 36% | 591 | 689 |
| | | | | | • | .47% | 3 | 59 |
| HOCON42 | 1054527 | 804 | blastx.2 | DYNAMIN 2. | splP50570 DYN2_H | %56 | 545 | 1588 |
| | | | | | UMAN | 74% | 162 | 734 |
| | | | • | | | 30% | 1276 | 1638 |
| | | | | | - | 28% | 1666 | 1914 |
| | | | | | | 38% | 2190 | 2246 |
| HKMNH3 | 1054550 | 805 | blastx.2 | (AL031115) ZXDA, | emb CAB36858.1 | 20% | 37 | 720 |
| | | | | LADB (zinc iniger A- linked protein) [Homo | | | | |
| | | | | sapiens] | | | | |
| HPDWP21 | 1054662 | 908 | blastx.2 | (AF178534) talin | gb AAF27330.1 | %66 | 63 | 197 |
| | | | | [Homo sapiens] | | 78% | 35 | 76 |
| HOGCS52 | 1054677 | 807 | blastx.2 | (AJ245621) CTL2 | emb CAB75542.1 | %66 | 36 | 1388 |
| | | | | protein [Homo sapiens] | | | | |
| HWMCK6 | 1054751 | 808 | blastx.2 | (AF125099) HSPC038 | gb AAD39916.1 AF1 | 100% | 258 | 485 |
| | | | | protein [Homo sapiens] | 25099 1 | | | |
| HWLOU33 | 1054790 | 608 | blastx.2 | lac repressor protein | gb AAA24052.1 | %96 | 18 | 401 |
| | | | | (gtg start codon) | | | | |
| HKZBM58 | 1054812 | 810 | blastx.2 | sin3 associated | gb AAC51322.1 | 100% | 126 | 584 |
| | | | | polypeptide p18 [Homo | | | | |
| | | | | sapiens] | | | | |
| HTEOV06 | 1054813 | 811 | blastx.2 | sin3 associated | gb AAC51322.1 | %56 | 317 | 799 |
| | | | | polypeptide p18 Homo | | | | |

| | | | | sapiens | | | | |
|-------------|---------|-----|----------|---|----------------|-----|------|------|
| | 1055174 | 813 | blastx.2 | protein related N- ternimus of tre oncogene [Homo sapiens] | dbj BAA02807.1 | %26 | 7 | 585 |
| ╫ | 1055248 | 814 | blastx.2 | PRAJA1 [Mus | gb AAC00205.1 | 73% | 1084 | 1989 |
| | | | | musculus] | - | 45% | 841 | 1620 |
| | | | | 1 | | 30% | 100 | 948 |
| | | | | | | 22% | 1908 | 1985 |
| - | 1055304 | 815 | blastx.2 | (AB006625) The | dbj BAA22956.1 | %86 | 2 | 1348 |
| | | | | human homolog of a | | %06 | 1290 | 1682 |
| | | | | mouse imprinted gene, | | 31% | 251 | 626 |
| | | | | Peg3. [Homo sapiens] | | 27% | 62 | 1276 |
| | | | | | | 30% | 197 | 895 |
| | | | | | | 24% | Ξ | 1333 |
| | | | | | | 27% | 44 | 1324 |
| | | | | , | | 79% | 62 | 1273 |
| | | | | | | 30% | 146 | 895 |
| | | | | | | 79% | 2 | 856 |
| | | | | | | 32% | 605 | 1003 |
| | | | | | | 24% | 278 | 1147 |
| | | | | | | 70% | 35 | 626 |
| | | | | | | 34% | 221 | 484 |
| | | | | | | 22% | 1308 | 1445 |
| | | | | j. | | 79% | 1290 | 1676 |
| | | | | | | 78% | 1437 | 1676 |
| | | | | | | 78% | 969 | 829 |
| | | | | | | 25% | 1287 | 1769 |

| | | | | | | 79% | 1308 | 1676 |
|---------|---------|-----|----------|--|-------------------|------|------|------|
| | | | | | | 32% | 1305 | 1499 |
| | | | | | | 27% | 1398 | 1676 |
| | | | | | | 36% | 905 | 626 |
| | | | | | | 36% | 1425 | 1499 |
| | | | | | • | 39% | 1596 | 1679 |
| | | | | | | 34% | 1608 | 1676 |
| | | | | | | 28% | 1344 | 1502 |
| HBNMF62 | 1055381 | 816 | blastx.2 | (AK000538) unnamed | dbj BAA91239.1 | 100% | 314 | 625 |
| | | | | protein product [Homo sapiens] | | 43% | 752 | 859 |
| нтрно72 | 1055426 | 817 | blastx.2 | EF-hand protein [Homo sapiens] | emb CAA55343.1 | 100% | 86 | 1048 |
| HOPKL18 | 1055439 | 818 | blastx.2 | stromelysin-3 precursor [Homo sapiens] | emb CAA40918.1 | 100% | . 2 | 1438 |
| HTXKD84 | 1055467 | 820 | blastx.2 | Hlark [Homo sapiens] | gb[AAC51293.1] | %26 | 111 | 581 |
| | | | | | • | 28% | 571 | 1191 |
| | | | | | | 25% | 839 | 1006 |
| | | | | | | | | |
| HTXRR82 | 1055480 | 821 | blastx.2 | myosin IC | gb AAC37427.1 | 45% | 522 | 1310 |
| | | | | [Dictyostelium discoideum] | | 32% | 1433 | 1504 |
| HAIBU62 | 1055582 | 822 | blastx.2 | (AL133070) | emb CAB61393.1 | %66 | 154 | 1518 |
| | | | | hypothetical protein [Homo sapiens] | | ,. | | |
| HDTAY29 | 1055632 | 823 | blastx.2 | (AJ250865) TESS 2 | emb CAB65119.1 | %66 | 65 | 625 |
| | | | | [Homo sapiens] | | | | |
| HC0QD79 | 1055767 | 824 | blastx.2 | (AF118394) putative | gb AAD45242.1 AF1 | %86 | 201 | 689 |
| | | | | | | | | |

| 210 | 559 | 295 | | | | | 1957 | | | | 853 | , | | | | | | 168 | | 344 | | 1084 | | | 932 | | | |
|--|-------------------|------------------|-------------------|----------------|-----------------|----------|--------------------|------------------------|--------------|----------|--------------------|------------------|----------------|--------------------|-----------------|-----------------------|------------|-----------------------|-----------|---------------------|----------|-----------------|--------------------|----------------|-----------------------|--------------------|---------------------|----------------|
| 92 | 53 | 263 | | | | | 8 | | | | 2 | | | | | | | 1 | | 6 | | 188 | | | 3 | | | |
| 100% | 78% | 36% | | | | | %66 | ***** | | | 45% | | | • | | | | %86 | | 100% | | 100% | | | %86 | | | |
| 18394_1 | emb CAA94773.1 | | | | | | gb AAD49722.1 AF1 | 67160_1 | | | emb CAA99881.1 | | | | | | • | emb CAA66186.1 | | gb[AAC51319.1] | | gb[AAB51324.1] | • | | gb AAD53962.1 AF1 | 81467_1 | | |
| nucleotide binding protein [Homo sapiens] | Similarity to EGF | domain; cDNA EST | EMBL:T02406 comes | from this gene | [Caenorhabditis | elegans] | (AF167160) protein | inhibitor of activated | STAT-1 [Homo | sapiens] | similar to ankyrin | motifs; cDNA EST | CEMSH89F comes | from this 1 1 cDNA | EST EMBL:D33056 | comes from this gene; | cDNA EST E | fsh-like protein [Mus | musculus] | Wnt7a protein [Homo | sapiens] | B-cell receptor | associated protein | [Homo sapiens] | (AF181467) protein Z- | dependent protease | inhibitor precursor | [Homo sapiens] |
| | blastx.2 | | | | | | blastx.2 | | | | blastx.2 | | | | | | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | • | |
| | 825 | | | | | | 826 | | | | 827 | | | | | | | 828 | | 829 | | 830 | | | 831 | | | |
| | 1055899 | | | | | | 1056000 | | | | 1056097 | | | | | | • | 1056102 | | 1056104 | | 1056275 | | | 1056290 | | | |
| | HAMHN1 | 2 | | | | | HODIY67 | | | | HNTRS57 | | | | | | | HUKFL74 | | HTEBF05 | | HOPKD19 | | | HLICR58 | | | |

| 111 | 1436 | 327 | | 3060 | 2118 | 2133 | 2166 | 2166 | 2118 | 2118 | 1632 | 2118 | 2109 | 2117 | 940 | 934 | 931 | 4139 | 1251 | 4190 | 3694 | 771 | 841 | 1587 | 3154 | 771 | 4119 |
|-------------------------|-----------------------|-----------------------------------|----------|-----------------------|----------------|----------|------|------|------|------|-------------|------|------|------|-----|-----|-----|------|------|--------|------|-----|-----|------|------|-----|------|
| 7 | 366 | 265 | | 1036 | 1036 | 1033 | 1036 | 1264 | 1429 | 1486 | 1036 | 1594 | 1327 | 1032 | 743 | 743 | 899 | 3777 | 1015 | . 3672 | 3572 | 658 | 728 | 1432 | 2846 | 595 | 4021 |
| 100% | 100% | 33% | | 95% | 45% | 43% | 45% | 46% | 44% | 45% | 44% | 38% | 36% | 79% | 38% | 35% | 34% | 37% | 31% | 25% | 36% | 44% | 44% | 73% | 73% | 32% | 40% |
| sp Q9Y6Y5 Q9Y6Y5 | gb AAC98506.1 | | | gb AAC39658.1 | | | | | | | | | | | | | | | | | | | | | | | - |
| IDN4-GGTR14 PROTEIN. | (AF095448) putative G | protein-coupled receptor [Homo | sapiens] | (AF018081) type XVIII | collagen [Homo | sapiens] | | | | | | | | | | | | | | | | | | | | | |
| blastx.2 | blastx.2 | | | blastx.2 | | | | | | | | | | | | | | | | | | | | | | | |
| 833 | 834 | - | | 835 | | | | | | | | | | | | | | | | | | | | | | | |
| 1056400 | 1056407 | | | 1056454 | | | | | | | | | | | | | | | | | | | | | | | |
| HAJAH48 | HSKJC61 | | | HEEBK29 | | - | | | | | | | | | | | | | | | | | | | | | |

| 784 | 901 | 910 | 2905 | 3607 | 3161 | 3161 | 3971 | 3161 | 3731 | 3164 | 1140 | 1104 | 1056 | 1140 | 1053 | 1140 | 1140 | 1056 | 1164 | 1050 | 1230 | 1368 | 1566 | 1566 | 1692 | 1800 | 1632 | 1859 | 1608 |
|------------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|------|------|------|------|---------------|------|-------------|------|------|------|
| <i>LL9</i> | 749 | 707 | 2753 | 3524 | 3120 | 3087 | 3789 | 3108 | 3579 | 3087 | 2129 | 2108 | 2129 | 2039 | 2129 | 2015 | 2105 | 2129 | 2108 | 1910 | 2111 | 2108 | 2111 | 2111 | 2039 | 2105 | 2108 | 2707 | 2108 |
| 38% | 37% | 27% | 35% | 32% | 20% | 40% | 27% | 20% | 33% | 40% | 40% | 37% | 35% | 38% | 37% | 37% | 39% | 35% | 32% | 35% | 38% | 37% | 38% | 37% | 43% | 43% | 38% | 30% | 37% |
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| 1863 | 2204 | 1046 | 2207 | 4695 | 2791 | 3534 | 2077 | 3555 | 3983 | 1987 | 2083 | 3489 | 1934 | 3788 | 2797 | 3677 | 3677 | 3083 | 2839 | 4643 | 2050 | 1055 | 9/9 | 2706 | 80 | 2785 | 2050 | 4090 | 4090 |
|------|------|------|------|----------|------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|-----|---------------|------|------|------|
| 2117 | 2680 | 1468 | 2707 | 4790 | 2997 | 3599 | 2394 | 3629 | 4135 | 2394 | 2457 | 3692 | 2020 | 3997 | 3015 | 3877 | 3862 | 3163 | 2988 | 4843 | 2394 | 1183 | 894 | 2825 | 178 | 2892 | 2157 | 4128 | 4131 |
| 43% | 30% | 32% | 32% | 45% | 28% | 52% | 32% | 48% | 37% | 27% | 73% | 73% | 51% | 32% | 33% | 36% | 32% | 48% | 78% | 767 | 33% | 32% | 30% | 25% | 33% | 38% | 36% | 61% | 20% |
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| | | | | | | 47% | 2801 | 2751 |
|-------------------------|---------|-------|----------|--|---|---|---|---|
| HCHMM1 9 | 1056617 | 836 | blastx.2 | Lutheran blood group glycoprotein [Homo sapiens] | emb CAA58449.1 | %66 | 10 | 1182 |
| HE8NG02 | 1056625 | 837 | blastx.2 | (AL035608) dJ479J7.1 (similar to CHONDROMODULI N-1) [Homo sapiens] | emb CAB55680.1 | 93% | 271 | 1011 |
| HWHKD2 2 | 1056654 | 838 · | blastx.2 | (AF094760) RFXANK [Homo sapiens] | gb AAC69883.1 | 29% | 56 | 715 |
| НОСРЈ87 | 1056666 | 839 | blastx.2 | protein-tyrosine- phosphatase (EC 3.1.3.48) 11A - human | pir A60345 A60345 | %66 | 34 | 1125 |
| HAAAA59 | 1056671 | 840 | blastx.2 | (AF151793) ALG-2 interacting protein 1 [Homo sapiens] | gb AAF08220.1 AF1 51793_1 | %95 %66 | 162 6007 | 2765 6048 |
| HOSBJ18 HUSGX12 HPDRG02 | 1056736 | 841 | blastx.2 | Inger protein 1, placental - human GATA-6 [Homo sapiens] protein disulfide isomerase-related | pır A32891 A32891 dbj BAA22621.1 gb AAA58460.1 | 65% 65% 65% 61% 61% 61% 100% 42% | 727 830 914 998 590 548 482 2203 2239 2239 26 | 2020 2095 2191 2221 1858 1774 1606 2322 2277 838 1405 |
| | | | | protein [Homo sapiens] | | 41% | 1031 | 1366 |

| 1327 | 1660 | 1316 | 650 | 983 | 831 | 205 | 1833 1875 1779 1809 1782 1812 1827 |
|------|------------------------------------|---|---|---|-----------------------------------|--|--|
| 1055 | 239 | 111 | 87 | 702 | 4 | 300 295 | 727 556 727 703 703 706 892 |
| 40% | 100% | %86 | 100% | 97% 32% | %86 | 75% 62% | 30% 26% 26% 23% 24% 24% 26% |
| | dbj BAA78677.1 | gb AAD32671.1 AF1 40242_1 | gb AAA91463.1 | gb AAB61297.1 | emb CAA31282.1 | dbj BAA85438.1 | emb CAA62188.1 |
| | (AB022663) HFB30 [Homo sapiens] | (AF140242) encephalopsin [Homo sapiens] | VEGF related factor isoform VRF167 precursor [Homo sapiens] | (AF003944) ovalbumin upstream promoter beta nuclear receptor rCOUPb [Rattus norvegicus] | ear-2 gene product [Homo sapiens] | (AP000616) similar to RING-H2 finger protein RHA1a (AF078683) [Oryza sativa] | Protein sequence and annotation available soon via Swiss-Prot; 1 [Homo sapiens] |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 844 | 845 | 846 | 847 | 848 | 849 | 820 |
| | 1056767 | 1056774 | 1056786 | 1056801 | 1056804 | 1056810 | 1056839 |
| | HKZBB48 | HHAWB1 9 | HHATP38 | HVVBE07 | HKAHB85 | HUSXA15 | HNOCH54 |

| 1782 | 1833 | 1827 | 1827 | 1824 | 1236 | 1833 | 1836 | 1827 | 1833 | 1836 | 852 | 876 | 1782 | 408 | 069 | 928 | 1830 | 456 | 852 | 885 | 1359 | 1527 | 843 | 906 | 408 | 411 | 1296 | 411 | 1251 |
|------|------|------|------|------|------|------|------|------|------|------|-----|-----|------|-----|-----|-----|-------------|-------------|----------|-----------|------|------|---------|-----|-----|-------------|------|-----|------|
| 727 | 724 | 733 | 883 | 856 | 78 | 883 | 865 | 856 | 988 | 730 | 4 | | 715 | 7 | 145 | 31 | 926 | | 31 | 16 | 382 | 745 | 22 | - | 7 | _ | 424 | 10 | 724 |
| 24% | 21% | 24% | 25% | 76% | 22% | 23% | 21% | 22% | 23% | 22% | 24% | 25% | 22% | 32% | 31% | 24% | 23% | 28% | 25% | 22% | 23% | 23% | 20% | 76% | 28% | 792 | 24% | 30% | 23% |
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| 069 | 411 | 1293 | 681 | 1635 | 501 | 1251 | 1311 | 369 | 612 | 1383 | 829 | 1782 | 501 | 684 | 681 | 1743 | 681 | 1356 | 675 | 681 | 069 | 675 | 069 | 693 | 1830 | 684 | 675 | 1383 | 1929 |
|-----|-----|------|-----|--------------|-------|------|------|-----|-----|------|-----|------|-----|-----|-------------|-------------|-----|------|-----|-----|--------|-----|-----|-----|------|-----|-----|------|------|
| 259 | 22 | 430 | 427 | 1054 | 250 | 427 | 430 | _ | 7 | 427 | 352 | 730 | 250 | 424 | 427 | 1108 | 415 | 430 | 313 | 427 | 322 | 322 | 430 | 343 | 1648 | 430 | 412 | 430 | 1369 |
| 25% | 31% | 25% | 34% | 21%. | 35% | 24% | 24% | 30% | 25% | 23% | 28% | 23% | 31% | 34% | 35% | 24% | 32% | 79% | 79% | 73% | 27% | 27% | 30% | 30% | 36% | 33% | 31% | 22% | 22% |
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| 684 | 282 | 675 | 420 | 1401 | 681 | 675 | 411 | 1635 | 843 | 753 | 1896 | 1521 | 1401 | 276 | 675 | 408 | 1785 | 684 | 681 | 765 | 1803 | 681 | 681 | 1308 | 829 | 069 | 501 | 1743 | 1359 |
|-----|-----|-----|-----|------|-----|-----|-----------|------|--------------|-----|------|------|------|-----|-----|-----|------|-----|-----|----------|-------------|-----|-----|------|-----|-----|-----|------|------|
| 406 | _ | 343 | 31 | 430 | 430 | 337 | 184 | 1012 | 406 | 337 | 1627 | 1120 | 266 | 430 | 421 | 10 | 1357 | 430 | 358 | 376 | 1618 | 427 | 352 | 427 | 424 | 349 | 259 | 1108 | 364 |
| 31% | 29% | 27% | 762 | 22% | 32% | 27% | 27% | 23% | 28% | 79% | 27% | 23% | 24% | 34% | 30% | 27% | 24% | 31% | 29% | 24% | 25% | 29% | 28% | 25% | 32% | 25% | 29% | 22% | 21% |
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| 1554 | 292 | 720 | 1383 | 693 | 1308 | 1311 | 1236 | 1383 | 1458 | 276 | 069 | 1818 | 1698 | 829 | 681 | 654 | 1827 | 1827 | 1401 | 1869 | 573 | 771 | 1077 | 1953 | 1635 | 1527 | 681 | 681 | 669 |
|------|--------------|-----|------|-----|------|-------------|------|------|------|-------------|-----|------|------|-----|-------------|-----|------|-------------|------|------|-----|-----|------|------|------|------|-----|-----|-----|
| 1273 | 424 | 412 | 961 | 427 | 430 | 409 | 634 | 430 | 1123 | 427 | 430 | 1648 | 1267 | 427 | 421 | 418 | 1651 | 1648 | 1072 | 1288 | 388 | 424 | 499 | 1621 | 1375 | 1279 | 427 | 430 | 430 |
| 25% | 30% | 78% | 25% | 30% | 22% | 22% | 72% | 21% | 21% | 31% | 31% | 31% | 72% | 27% | 78% | 79% | 78% | 30% | 22% | 24% | 73% | 27% | 72% | 79% | 22% | 30% | 30% | 32% | 25% |
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| 1812 | 1830 | 1830. | 1782 | 684 | 1827 | 1644 | 1254 | 1527 | 654 | 1533 | 1827 | 829 | 432 | 1488 | 1812 | 1509 | 420 | 1827 | 1527 | 1347 | 1644 | 681 | 1782 | 675 | 1311 | 829 | 654 | 684 | 693 |
|------|------|-------------|------------|----------|------|------|------|----------------|----------|------|------|-----|-----|------|------|------|-----|------|------|-------------|------|---------|------|-----|------|---------------|-----|-------------|-----|
| 1660 | 1648 | 1648 | 1333 | 415 | 1648 | 1273 | 1006 | 1009 | 418 | 1282 | 1582 | 430 | 148 | 1117 | 1648 | 1123 | 16 | 1618 | 1123 | 1012 | 1390 | 382 | 1369 | 352 | 427 | 427 | 430 | 427 | 430 |
| 32% | 25% | 34% | 24% | 23% | 792 | 79% | 73% | 21% | 78% | 22% | 23% | 32% | 78% | 18% | 27% | 21% | 31% | 767 | 25% | 27% | 70% | 25% | 27% | 22% | 23% | 25% | 32% | 25% | 29% |
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| 684 | 1929 | 1929 | 1383 | 1827 | 1830 | 1587 | 1827 | 1830 | 1452 | 621 | 1812 | 1635 | 1806 | 1242 | 1929 | 1827 | 267 | 1782 | 1239 | 1383 | 1554 | 1800 | 1518 | 1509 | 1023 | 300 | 1560 | 1554 | 1818 |
| 424 | 1648 | 1648 | 1018 | 1651 | 1648 | 1384 | 1648 | 1648 | 1012 | 430 | 1669 | 1393 | 1648 | 1123 | 1369 | 1648 | 427 | 1648 | 1057 | 961 | 1357 | 1648 | 926 | 1222 | 724 | 4 | 1390 | 1123 | 1648 |
| 27% | 23% | 28% | 28% | 25% | 22% | 26% | 79% | 24% | 21% | 32% | 27% | 23% | 30% | 32% | 23% | 25% | 34% | 40% | 28% | 24% | 79% | 25% | 22% | 78% | 79% | 22% | 28% | 18% | 22% |
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| 1245 | 1584 | 1905 | 1383 | 1806 | 675 | 411 | 1509 | 435 | 1917 | 1812 | 1567 | 1530 | 1929 | 1782 | 1782 | 1401 | 454 | 6881 | 1509 | 1734 | 1626 | 1635 | 88/ | 631 | 862 | 165 | 429 | 008 | 1830 |
|----------|------|------|------|----------|-----|-----|------|----------|----------------|------|------|--------|------|------|--------|------|-----|------|------|-------------|--------------|------|-------------|-----|-----|-----|-----|-----|------|
| | | | | | | | | | | | | | | | | | | | | | | | _ | | | | | | |
| 8 | 128 | 10, | 112 | 120 | 4 | | 128 | | 164 | 164 | 146 | 107 | 136 | 164 | 164 | 101 | 33 | 165 | 117 | 135 | 136 | 137 | 75 | 44 | 42 | | 12 | 165 | 1648 |
| 20% | 25% | 70% | 22% | 21% | 79% | 25% | 22% | 79% | 25% | 23% | 37% | 18% | 21% | 24% | 25% | 22% | 27% | 22% | 23% | 79% | 23% | 21% | 16% | 79% | 24% | 25% | 25% | 23% | 22% |
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| 2095 | 144 | 1314 | 1362 | 144 | 1368 | 1827 | 1001 | 1458 | 1929 | 1827 | 533 | 2018 | 1236 | 1175 | 1827 | 1827 | 1509 | 2092 | 1837 | 1692 | 528 | 1731 | 2060 | 1440 | 1554 | 1467 | 1830 | 2078 | 1321 |
|------|-----|------|------|-------------|------|-------------|------|------|------|------|-----|------|------|------|------|------|------|------|-------------|------|-------------|-------------|------|------|------|------|------|-------------|------|
| 2018 | - | 1195 | 626 | 29 | 1123 | 1648 | 897 | 1318 | 1468 | 1648 | 477 | 1980 | 1120 | 993 | 1651 | 1648 | 1375 | 1910 | 1733 | 1648 | 397 | 1369 | 1878 | 1336 | 1327 | 1120 | 1648 | 2031 | 1256 |
| 42% | 25% | 34% | 22% | 34% | 30% | 70% | 28% | 25% | 22% | 70% | 47% | 23% | 23% | 33% | 22% | 22% | 24% | 24% | 72% | 23% | 73% | 70% | 27% | 31% | 25% | 23% | 21% | 43% | 40% |
| | | | | | • | | | | | | | - | | | | | - | _ | | | | | | | | | | | |
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| 849 | 1928 | 393 | 1236 | 650 | | | 848 | | 480 | | 229 | | | 469 | 343 | 319 | 313 | 274 | 403 | 313 | 313 | 321 | 403 | 155 | 131 | 155 | 176 | 155 |
|-----|------|-----|------|---------------------|--------------------------|----------------|----------------------|---------------------|-----------------|---------|--------------------|-----------------------|---------|----------------|----------------------|----------------|-----|-----|-----|-----|-----|---------------------|-----------------|-------------------|--------|-----|-----|-----|
| 814 | 1863 | 127 | 1120 | 36 | | | 06 | | 62 | | 5 | <u></u> - | | 11 | 14 | 70 | 71 | 14 | 14 | 14 | 38 | 136 | 299 | 9 | 48 | 45 | 63 | 54 |
| 20% | 45% | 27% | 25% | 100% | | | 100% | | 100% | | %89 | | | %66 | 42% | 47% | 20% | 48% | 34% | 38% | 38% | %22 | 17% | 37% | 45% | 32% | 45% | 38% |
| | | | | gb AAA03246.1 | | | gb AAA87064.1 | | dbilBAA23363.11 | | dbj BAA91205.1 | | | emb CAB70782.1 | | | | | | | | gb AAD31764.1 AF1 | 21963_1 | | | | | |
| | | | | insulin-like growth | factor binding protein 2 | [Homo sapiens] | platelet-endothelial | tetraspan antigen 3 | OTK27 [Homo | sapiens | (AK000496) unnamed | protein product [Homo | sapiens | (AL137516) | hypothetical protein | [Homo sapiens] | | | | | | (AF121963) receptor | tyrosine kinase | precursor [Gallus | gallus | | | |
| | | | | blastx.2 | | | blastx.2 | | blastx 2 | | blastx.2 | | | blastx.2 | | | - | | | | | blastx.2 | • | | | | | |
| | | | | 851 | | | 852 | | 853 | | 854 | | | 855 | | | | | , | | | 958 | | | | | | |
| | | | | 1056856 | | | 1056862 | | 1056875 | | 1056927 | | | 1056990 | | | | | | | | 1057009 | | | | | | |
| | | | | HOCPP16 | | | HNOAH83 | | HE201110 |) | HODGM4 | 9 | | HODFR44 | | | | | | | | HCHIND12 | | | | | | |

| 424 | 759 | 400 | 815 | 2206 | 2084 | 1687 | 1690 | 1687 | 1705 | 1768 | 1681 | 1687 | 1687 | 886 | | 1937 | | 1155 | 858 | 9/9 | | | | | 713 1274 |
|-------------------|------------------------|----------------|------|-----------------------|----------------|------|------|------|------|------|------|------|------|--------------------------------------|------------|----------------|--|--------------------------|-----------------------------------|-----------------------|---------------------|---------------------|-----------------------|--------------|---|
| 2 | 427 | 70 | 786 | 5 | 1620 | 2154 | 2160 | 2136 | 2160 | 2160 | 2109 | 2010 | 1977 | 116 | | 1590 | | 1 | 7 | 263 | | | | | 3 |
| %86 | %06 | 39% | 100% | %86 | 34% | 39% | 35% | 37% | 36% | 36% | 34% | 34% | 34% | 38% | | 100% | | %86 | 22% | 77% | | | | | 68% 47% |
| gb AAA59545.1 | | | | gb AAA51973.1 | | | | | | | | | | gb AAC32982.1 | | emb CAB43289.1 | | pir B60191 B60191 | | gb AAF01349.1 AC0 | 05003_1 | | | | emb CAA91418.1 |
| myelin-associated | glycoprotein precursor | [Homo sapiens] | 1 | carboxyl ester lipase | [Homo sapiens] | 1 | | | | | | | | junctional adhesion molecule [Mus | [musculus] | (AL050143) | hypothetical protein [Homo sapiens] | transcription regulatory | protein Evi-1, short form - human | (AC005003) similar to | zinc finger protein | MAZ [Homo sapiens]; | similar to AAB04121.1 | (FID:g99333) | Homology with Squid retinal-binding protein |
| blastx.2 | | | | blastx.2 | | | | | | | | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | | | blastx,2 |
| 857 | | | | 828 | | | | | · | | | | | 859 | | 098 | | 861 | | 862 | | | | | 863 |
| 1057157 | | | | 1057170 | | | | | | | | | | 1057212 | | 1057219 | | 1057260 | | 1057272 | | ., | | | 1057307 |
| HBHAC29 | | | | HTPFW87 | | | • | | | | | | | HISAF60 | | HRABO80 | | HADDF30 | | HDAAS58 | | | | | HSDZG15 |

| | 9611 9 | 5 1380 | | 6 1258 | 2 1625 | | | | | | | 2 357 | 3 1069 | | | 9 1272 | | | 5 659 | | 2 1019 | | | | 1 987 | | 2 1021 |
|------------------|-----------------------|----------------|---------------------|----------------|-----------------|----------------|-----------------|----------|-----|------|------|-------|----------------------|---------------------|----------------|----------------|--------------------|----------------|--------------------------|------------------------|-------------------|----------------------|-------------------|----------|---------------------------|-------|-------------------|
| | | 1165 | 56 | 896 | 342 | | | 899 | | 1109 | 1663 | | . 533 | | | 439 | | | 255 | | 72 | | | | | | 92 |
| | 64% | 47% | 100% | 34% | 100% | | 32% | 32% | 28% | 78% | 29% | 34% | %0/ | | | 100% | | | 100% | | %66 | | | | %66 | | %66 |
| | gb AAC53430.1 | | gb AAC16014.1 | | dbj BAA22848.1 | | gb AAC18782.1 | | | | | | gb AAD31172.1 AF1 | 16865_1 | | emb CAB75301.1 | | | emb CAA30318.1 | | gb[AAC16672.1] | | | | pir A32141 A32141 | | emb CAA49196.1 |
| (PIR Acc. No. 11 | laminin alpha 5 chain | [Mus musculus] | (AF062075) leupaxin | [Homo sapiens] | (AB003184) ISLR | [Homo sapiens] | prolargin [Homo | sapiens] | 1 | | | | (AF116865) hedgehog- | interacting protein | [Mus musculus] | (AL035587) | dJ475N16.1 (CTG4A) | [Homo sapiens] | cellular retinol binding | protein [Homo sapiens] | (AF002282) alpha- | actinin-2 associated | LIM protein [Homo | sapiens] | follistatin 1 precursor - | human | antigenic surface |
| | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | | | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | | | blastx.2 | | blastx.2 |
| | 864 | | 865 | | 998 | | 898 | | | | | | 698 | | | 870 | | | 871 | | 872 | | | | 873 | | 874 |
| | 1057393 | | 1057478 | | 1057561 | | 1057797 | | | | | | 1057842 | | | 1057880 | | | 1057915 | | 1057948 | | | | 1057958 | | 6262501 |
| | HPDVY52 | | HHESW02 | | HVVBW8 | 4 | HSLJC80 | | | | | | HEOAD12 | | | HVVBT41 | | | HAZAE42 | | HPRBN60 | | | | HOVCZ68 | | H6EDF71 |

| | | | | [Homo sapiens] | | | | |
|---------|---------|-----|----------|---|-------------------|------|-----|------|
| HCOOF60 | 1058001 | 875 | blastx.2 | ubiquitin carrier protein E2 - human | pir B42856 B42856 | %66 | 133 | 855 |
| HVVBH81 | 1058059 | 928 | blastx.2 | hnRNP U protein [Homo sapiens] | emb CAA46472.1 | %66 | 227 | 2644 |
| HSPTJ51 | 1058172 | 877 | blastx.2 | SWI/SNF complex 155 | gb AAC50693.1 | %56 | 51 | 1004 |
| | - | | | KDa subunit [Homo | | %06 | 51 | 1043 |
| | | | | sapiens | | 79% | 45 | 1055 |
| HOPKC80 | 1058174 | 878 | blastx.2 | (AJ011497) Claudin-7 [Homo sapiens] | emb CAA09626.1 | %66 | 348 | 086 |
| HOCPT58 | 1058250 | 628 | blastx.2 | (AF037261) SH3- | gb AAC09244.1 | 100% | 121 | 765 |
| | | | | containing adaptor | | 94% | 19 | 126 |
| | | | | molecule-1 [Homo sapiens] | | | | |
| HPCTP25 | 1058287 | 088 | blastx.2 | gamma- | gb AAB18827.1 | %86 | 72 | 1553 |
| | | | | aminobutyraldehyde | | | | |
| | | | | dehydrogenase [Homo | | | | |
| | | | | sapiens | | | | |
| HODKMS | 1058305 | 881 | blastx.2 | (AB008789) grb7 | dbj BAA29059.1 | %86 | 28 | 666 |
| 2 | | | | protein Homo sapiens | | | | |
| HCONB89 | 1058316 | 882 | blastx.2 | acid ceramidase [Homo | gb AAC50907.1 | %66 | 118 | 1302 |
| HBPND88 | 1058432 | 884 | blastx.2 | carboxyl terminal LIM | gb[AAC05580.1] | %66 | 142 | 1128 |
| | • | | | domain protein [Homo | - - | | | |
| | | | | sapiens] | | | | |
| H6EEO05 | 1058438 | 885 | blastx.2 | (AL117423) | emb CAB55915.1 | %66 | 100 | 1527 |
| | | | | hypothetical protein [Homo sapiens] | | | | |
| HFIVR61 | 1058451 | 988 | blastx.2 | interferon beta 2a | emb CAA00839.1 | %66 | 214 | TTT |

| | | | · | [Homo canional | | | | |
|---------|---------|--------|----------|---|---|-------------|------|------|
| HVVBX28 | 1058458 | 887 | blastx 2 | SH3 domain-containing | ob AAC50592 1 | % 96 | 53 | 403 |
| |) | ; } | | profein SH3P17 [Homo | 200000000000000000000000000000000000000 | 40% | 308 | 466 |
| | | | | sapiens] | | 36% | 104 | 301 |
| HVVBI38 | 1058475 | 888 | blastx.2 | factor H [Homo | emb CAA68704.1 | %66 | 294 | 2291 |
| | | | | sapiens] | | 25% | 336 | 2264 |
| , | | | | | • | 792 | 294 | 2291 |
| | | | | | | 25% | 501 | 2219 |
| • | • | | - · | | | 28% | 1083 | 2288 |
| | | | | | | 27% | 1185 | 2099 |
| HUKEJ46 | 1058539 | 688 | blastx.2 | (AF081507) signaling | gb AAC33967.1 | %86 | 479 | 1165 |
| | | | | molecule LEFTY-B | | %66 | 70 | 489 |
| | | | | [Homo sapiens] | | | | |
| HDTFT47 | 1058588 | 890 | blastx.2 | lymphocyte antigen | gb AAA36236.1 | %86 | 2 | 268 |
| | | | | [Homo sapiens] | | 91% | 258 | 398 |
| HSSFS71 | 1058596 | 891 | blastx.2 | ESP1/CRP2 [Homo | dbj BAA07703.1 | %56 | 53 | 460 |
| | | | | sapiens] | | 77% | 41 | 265 |
| | | | | | | 34% | 219 | 512 |
| HSDJH63 | 1058612 | 892 | blastx.2 | (AB045180) toll-like | dbj BAB19259.1 | 92% | 192 | 1358 |
| | | | | receptor 9 [Homo | | 100% | 107 | 190 |
| | | | | sapiens] | | 52% | 128 | 184 |
| | | | | | | 45% | 122 | 181 |
| | | | | | | 28% | 131 | 181 |
| HAHGD24 | 1058622 | 893 | blastx.2 | laminin alpha 5 chain [Mus musculus] | gb AAC53430.1 | 61% | 08 | 1024 |
| HTAEV85 | 1058723 | 894 | blastx.2 | (AJ005566) SPR2H | emb CAA06595.1 | 43% | 408 | 256 |
| | | | | protein [Mus musculus] | | 64% | 2500 | 2459 |
| | | | | | | 20% | 1784 | 1719 |
| | | | | | , | .35% | 544 | 485 |
| HPMME44 | 1058928 | 895 | blastx.2 | HCMVUL126 [human | emb CAA35328.1 | %96 | 78 | 329 |
| | | | | | | | | |

| | | | | hernesvirus 51 | | | | |
|---------|---------|-----|----------|--------------------------------------|-------------------|------------|------|------|
| HSPSG28 | 1058977 | 897 | blastx.2 | 26S protease subunit [Sus scrofa] | emb CAA61863.1 | %88 %66 | 483 | 1679 |
| | | • | · | | | | | |
| | | | : | | 4F + 4*** | | | |
| HTGFW12 | 1059006 | 868 | blastx.2 | homolog of yeast mutL | gb AAA63923.1 | %86 | 83 | 1438 |
| | , | | | gene [Homo sapiens] | | 94% | 1522 | 2670 |
| | | | | | | %89 | 1431 | 1667 |
| HOFMT75 | 1059050 | 668 | blastx.2 | cathepsin D [Homo | gb AAA51922.1 | %18 | 7 | 456 |
| | | | | sapiens] | | 80% | 414 | 743 |
| HARNB17 | 1059085 | 006 | blastx.2 | HCMVUL126 [human herpesvirus 5] | emb CAA35328.1 | %86 | 241 | 492 |
| HPDRG65 | 1059102 | 901 | blastx.2 | (AK000496) unnamed | dbj BAA91205.1 | %69 | 434 | 273 |
| | | | | protein product [Homo | | %69 | 253 | 128 |
| | | | | sapiens] | | 83% | 288 | 253 |
| HAOSG15 | 1059145 | 805 | blastx.2 | (AF026291) | gb AAC96010.1 | 100% | 160 | 1776 |
| | | | | chaperonin containing | | | | |
| | | | | t-complex polypeptide | | *** | | |
| | | | | 1, delta subunit; CCT- | | | | |
| | | | | delta [Homo sapiens] | | | | |
| HHEND31 | 1059180 | 903 | blastx.2 | (AF117330) unknown | gb AAD26207.1 AF1 | 73% | 175 | 1827 |
| | | | | [Rattus norvegicus] | 17330 1 | | | |
| HBMSN62 | 1059186 | 904 | blastx.2 | ZZ:beta-Gal' IgG- | gb AAB00807.1 | %98 | 1102 | 1251 |
| | | | | binding fusion protein | | | | |
| | | | | [unidentified cloning 1 | | | | |
| HOVCJ46 | 1059241 | 506 | blastx.2 | (AF037272) WAP | gb AAC40055.1 | %18 | 41 | 214 |
| | | | | Tom-misminge core | | 0/0/ | 1/2 | 330 |

| | 1348 | 1191 | 1698 | 685 | 1996 . 508 2310 2296 | 955 | 1048 | 496 |
|------------------------------------|--|---------------------------|--|---|--|---|--|--|
| | 92 | 436 | 427 | 5 | 212 188 2209 2219 | 158 | 125 | 275 |
| | %66 | 100% | 100% | 100% | 100% 37% 32% 30% | %66 | %16 | 52% |
| | gb AAD34341.1 AF1 17646_1 | gb AAC02781.1 | dbj BAA13404.1 | gb AAA50779.1 | gb AAA35963.1 | gb AAC39802.1 | gb AAF34411.1 | emb CAA20980.2 |
| domain protein [Rattus norvegicus] | (AF117646) long CBL-3 protein [Homo sapiens] | bikunin [Homo sapiens] | Similar to Human tesican (S33293) [Homo sapiens] | protein tyrosine phosphatase [Homo sapiens] | hematopoietic cell phophatase [Homo sapiens] | (AF062317) p120 catenin isoform 1B [Homo sapiens] | (AF169284) LIM and cysteine-rich domains protein 1 [Homo 1 | (AL031629) similar to RNA recognition motif. (aka RRM, RBD, or 1 1 |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 906 | 806 | 606 | 910 | 911 | 912 | 913 | 914 |
| | 1059394 | 1059532 | 1059626 | 1059692 | 1059710 | 1059743 | 1059764 | 1059784 |
| | HWLEP14 | HDABR73 | HOGAJ24 | HTJMV05 | HOOIL 70 | HUNAE87 | нтрно01 | НDРWК69 |

| 1059967 917 blasts.2 (AL117639) emb CAB56027.1 1059969 918 blasts.2 (AF132856) suppressor gb AAD30062.1 1059969 918 blasts.2 (AF132856) suppressor gb AAD30062.1 1060137 919 blasts.2 (AF078798) gb AAD12719.1 1060193 920 blasts.2 (AF078798) gb AAD12719.1 1060194 922 blasts.2 (AL137714) emb CAB70887.1 1060495 924 blasts.2 (AL137714) emb CAB70887.1 1060495 924 blasts.2 ATPase subunit 6 db BAA07295.1 1060495 925 blasts.2 sialidase [Homo sapiens] 1060456 925 blasts.2 sialidase [Homo sapiens] 1060656 925 blasts.2 sialidase [Homo sapiens] | HPCOK03 | 1059849 | 915 | blastx.2 | (AF008551) aurora- | gb AAC12708.1 | %66 | 59 | 1267 |
|--|---------|---------|-----|----------|--------------------------------------|----------------|--------|-------------|------|
| 5 1059967 917 blastx.2 (AL117639) emb[CAB56027.1] 7 1059969 918 blastx.2 (AF132856) suppressor gb[AAD30062.1] 7 1059969 918 blastx.2 (AF132856) suppressor gb[AAD30062.1] 91 blastx.2 (AF078798) gb[AAD12719.1] extracellular signal-regulated kinase 7; ERK7 [Rattus gb[AAA58350.1] 1060193 920 blastx.2 replication protein gb[AAA58350.1] 1060382 921 blastx.2 replication protein gb[AAA88036.1] 4 1060391 922 blastx.2 (AL137714) A 1060415 923 blastx.2 (AL137714) A 1060495 924 blastx.2 (AL137714) B 1060495 924 blastx.2 reinhardtiil C 1060495 924 blastx.2 ATPase subunit 6 dbj[BAA07295.1] Hono sapiens] reinhardtiil dbj[BAA07295.1] Hono sapiens] Hono sapiens] | | | | | related kinase 1 [Homo | | | _ | |
| 1059967 917 blastx.2 (AL117639) emb CAB56027.1 hypothetical protein Hypothetical protein Hypothetical protein Hopothetical protein Hopothetical protein Hopothetical protein Hopothetical protein Homolog [Homo sapiens] Homo sapiens] Homo sapiens] Homo sapiens] Homo sapiens Homo sa | | | | | sapiens] | | | | |
| Hypothetical protein | HOOJC15 | 1059967 | 216 | blastx.2 | (AL117639) | emb CAB56027.1 | %86 | 575 | 1216 |
| Homo sapiens Homo sapiens Homo sapiens Homo sapiens Homo sapiens AF132856) suppressor gb AAD30062.1 of G2 allele of skp1 homolog [Homo sapiens] sapiens extracellular signal-regulated kinase 7; ERK7 [Rattus norvegicus] ERK7 [Rattus norvegicus] 1060193 920 blastx.2 replication protein HADa subunit [Homo sapiens] emb CAB70887.1 HOmo sapiens Homo sapi | | | | | hypothetical protein | | | | |
| 1059969 918 blastx.2 (AF132856) suppressor gb AAD30062.1 of G2 allele of skp1 | | | | | [Homo sapiens] | | | | |
| 1060137 919 blastx.2 (AF078798) gb AAD12719.1 | HODFG47 | 1059969 | 816 | blastx.2 | (AF132856) suppressor | gb AAD30062.1 | 100% | 215 | 1213 |
| 1060137 919 blastx.2 (AF078798) gb AAD12719.1 1060137 919 blastx.2 (AF078798) gb AAD12719.1 1060193 920 blastx.2 replication protein A gb AAA58350.1 1060382 921 blastx.2 replication protein B gb AAA88036.1 1060382 921 blastx.2 wknown protein gb AAA88036.1 1060415 922 blastx.2 (AL137714) emb CAB70887.1 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 11 1060656 925 blastx.2 sialidase [Homo emb CAA55356.1 | | | | | on G2 anele on skpi bomolog (Homo | | | | |
| 1060137 919 blastx.2 (AF078798) gb AAD12719.1 extracellular signal-regulated kinase 7; ERK7 [Rattus norvegicus] eRK7 [Rattus 1060193 920 blastx.2 replication protein A gb AAA58350.1 14kDa subunit [Homo sapiens] emb CAB70887.1 hypothetical protein EMCA137714 emb CAB70887.1 hypothetical protein Homo sapiens] emb CAB70887.1 hypothetical protein Homo sapiens] emb CAB70887.1 emb CAB70887.1 Homo sapiens] emb CAA53356.1 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 Homo sapiens] emb CAA55356.1 sapiens] emb CAA55356.1 sapiens] | | | | | sapiens] | | | | |
| PRK7 Rattus PRK7 Rattus PRK7 Rattus PRK7 Rattus PRK7 PRA Pattus PRK7 PRA Pattus PRK8 PR20 PR20 | HBIPC05 | 1060137 | 919 | blastx.2 | (AF078798) | gb AAD12719.1 | 62% | 23 | 832 |
| PERK7 [Rattus Pergulated kinase 7; ERK7 [Rattus Dorvegicus] 1060193 920 blastx.2 replication protein A gb AAA58350.1 14kDa subunit [Homo sapiens] 1060382 921 blastx.2 wknown protein gb AAA88036.1 Homo sapiens] Homo sapiens] 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 reinhardtii] 1060495 924 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 Homo sapiens] Homo sapiens] Homo sapiens] Homo sapiens] Homo sapiens] Sapien | | | | | extracellular signal- | | | | |
| 1060193 920 blastx.2 replication protein A gb AAA58350.1 14kDa subunit [Homo sapiens] 20 1060382 921 blastx.2 22 blastx.2 22 blastx.2 22 blastx.2 22 blastx.2 22 blastx.2 22 blastx.2 23 blastx.2 24 blastx.2 25 25 25 25 25 25 25 | | | | | regulated kinase 7; | | | | |
| 1060193 920 blastx.2 replication protein A gb AAA58350.1 14kDa subunit [Homo sapiens] 14kDa subunit [Homo sapiens] 14kDa subunit [Homo sapiens] 1060391 922 blastx.2 (AL 137714) emb CAB70887.1 hypothetical protein Homo sapiens] 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 reinhardtii] 1060656 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 Homo sapiens] 1060656 925 blastx.2 sapiens] sapiens] sapiens] sapiens] sapiens] sapiens] | | | | | ERK7 [Rattus | | | | |
| 1060193 920 blastx.2 replication protein A gb AAA58350.1 14kDa subunit [Homo sapiens] 14kDa subunit [Homo sapiens] 1060382 921 blastx.2 (AL137714) hypothetical protein (Homo sapiens] 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 reinhardtii] 1060656 924 blastx.2 Homo sapiens] Homo sapiens] 1060656 925 blastx.2 ATPase subunit 6 dbj BAA07295.1 Homo sapiens] 1060656 925 blastx.2 sialidase [Homo sapiens] sapiens] sapiens] sapiens] | | | | | norvegicus] | | · | | |
| 14kDa subunit [Homo sapiens] | HOPJJ32 | 1060193 | 920 | blastx.2 | replication protein A | gb AAA58350.1 | 100% | 447 | 635 |
| 1060382 921 blastx.2 unknown protein gb AAA88036.1 1060391 922 blastx.2 (AL137714) emb CAB70887.1 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 1060656 925 blastx.2 sialidase [Homo emb CAA55356.1 1060656 925 blastx.2 sialidase [Homo emb CAA55356.1 | • | | | | 14kDa subunit [Homo | | | | |
| 1060382 921 blastx.2 unknown protein gb AAA88036.1 1060391 922 blastx.2 (AL137714) emb CAB70887.1 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 1060656 925 blastx.2 sialidase [Homo emb CAA55356.1 1060656 925 blastx.2 sialidase [Homo emb CAA55356.1 | | | | | sapiens] | | | | |
| 1060391 922 blastx.2 (AL137714) emb CAB70887.1 hypothetical protein Homo sapiens 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 reinhardtii] 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 Homo sapiens 1060656 925 blastx.2 sialidase [Homo emb CAA55356.1 sapiens | HNOBN20 | 1060382 | 921 | blastx.2 | unknown protein | gb AAA88036.1 | 43% | 1362 | 1150 |
| 1060391 922 blastx.2 (AL137714) emb CAB70887.1 hypothetical protein Homo sapiens 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 reinhardtii] 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 Homo sapiens 1060656 925 blastx.2 sapiens sapiens | | | | | [Homo sapiens] | | 47% | 1487 | 1380 |
| hypothetical protein Hypothetical protein Homo sapiens Hom | HOCPX74 | 1060391 | 625 | blastx.2 | (AL137714) | emb CAB70887.1 | 91% | 18 | 959 |
| Homo sapiens Homo sapiens Homo sapiens Homo sapiens | | | | | hypothetical protein | | | | |
| 1060415 923 blastx.2 PF20 [Chlamydomonas gb AAB41727.1 reinhardtii] 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 [Homo sapiens] 1060656 925 blastx.2 sialidase [Homo sapiens] sapiens | | | | | Homo sapiens | | | | |
| 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 Homo sapiens emb CAA55356.1 sapiens | HTEPP27 | 1060415 | 923 | blastx.2 | PF20 [Chlamydomonas | gb AAB41727.1 | 39% | 207 | 581 |
| 1060495 924 blastx.2 ATPase subunit 6 dbj BAA07295.1 Homo sapiens emb CAA55356.1 sapiens | | | | | reinhardtii | | | | |
| 1060656 925 blastx.2 sialidase [Homo emb CAA55356.1 sapiens] | HLYAJ79 | 1060495 | 924 | blastx.2 | ATPase subunit 6 | dbj BAA07295.1 | 79% | 197 | 808 |
| 1060656 925 blastx.2 sialidase [Homo emb CAA55356.1 sapiens] | | | | | Homo sapiens | | | | |
| sapiens | HC00Q11 | 1060656 | 925 | blastx.2 | sialidase [Homo | emb CAA55356.1 | 70% | | 189 |
| | | | | , | sapiens] | | . 100% | 189 | 308 |

| HWMGI51 | 1060711 | 976 | blastx.2 | hypothetical protein | dbj BAA10294.1 | 41% | 16 | 615 |
|---------|---------|-----|----------|--------------------------------|----------------------------|-----------------|-------|---------------------------------------|
| HDPJG33 | 1060780 | 927 | blastx.2 | GTP binding protein | emb CAA36803.1 | 78% | 543 | 863 |
| | | | | [Mus musculus] | | %89 | 439 | 669 |
| | | • | | | | 37% | . 933 | 1061 |
| HLYAE20 | 1060967 | 928 | blastx.2 | hypothetical protein 2 | pir S12206 S12206 | %19 | 1002 | 1259 |
| | | | | (rRNA external | | | | |
| | | | | transcribed spacer) - 1 | | | | |
| HKZAR86 | 1060972 | 929 | blastx.2 | ERF-2 [Homo sapiens] | emb CAA55592.1 | %66 | 322 | 1302 |
| HAOTX62 | 1061036 | 930 | blastx.2 | SPIN protein [Homo | emb CAA75163.1 | 100% | 11 | 298 |
| | | | | sapiens | | | | |
| Носод58 | 1061180 | 931 | blastx.2 | 26S PROTEASOME REGULATORY | sp Q13200 PSD2_HU MAN | 100% | 63 | 2786 |
| | | | | SUBUNIT S2 (P97) (TUMOR 1 1 | | | | · · · · · · · · · · · · · · · · · · · |
| HOFNH33 | 1061185 | 932 | blastx.2 | MRAS2 gene product | gb AAA83994.1 | 31% | 260 | 823 |
| | | | | Mucor racemosus | | | | |
| HAJAQ63 | 1061238 | 933 | blastx.2 | matrin 3 [Rattus | gb AAB63955.1 | % 06 | 1038 | 2570 |
| | | | | norvegicus] | , | 94% | 293 | 1105 |
| | | | | • | | 54% | 2361 | 2810 |
| | | | | | | - %86 | 3308 | 3478 |
| | | | | | | 24% | 2634 | 2813 |
| | | | | | | 31% | 2646 | 2759 |
| | | | | | | 35% | 1755 | 1847 |
| | | | | | | 35% | 3362 | 3454 |
| | | | | | | 40% | 3837 | 3896 |
| HVVBK70 | 1061258 | 934 | blastx.2 | (AJ000414) Cdc42- | emb CAA04062.1 | %76 | 653 | 1276 |
| | | | | interacting protein 4 | | 100% | 31 | 468 |
| | | · | | [Homo sapiens] | | 28% | 627 | 1055 |
| HVVBA82 | 1061332 | 935 | blastx.2 | (AL022313) | emb CAA18439.1 | 100% | 3 | 200 |
| | | | | | | | | |

| | | | ··· <u>·</u> ··· | 114 692 | | 103 945 | 938 1000 | | 3 254 | 1766 1641 | | 3 326 | | 244 741 | | 33 206 | _ | | 3 1631 | | | | 73 726 | 100 657 | 88 561 | | 2 1300 |
|----------|------------|----------------|-----------------------------|------------------|---------|------------------|------------------|----------|--------------------|-----------------------|----------|----------------|----------|--------------------|------------------------|----------------|-----------------------|------------------------|------------------------|------------------------|----------------|----------------------|--------------------------|------------------|--------------------------|----|-----------------|
| | | | | 100% | | %66 | 100% | | 71% | 73% | | 100% | | 100% | | %001 | - | | 100% | | | 33% | 78% | 32% | 30% | | %86 |
| | | | | dbj BAA01706.1 | | gb[AAD03056.1] | | | dbj BAA91205.1 | | | dbj BAA19652.1 | | gb AAD34119.1 AF1 | 51882_1 | emb CAA05152.1 | | | gb AAA02891.1 | | | gb AAC96986.1 | | | : | | emb CAA45756.1 |
| 17111017 | dJ1119A/.1 | (mitochondrial | tnioredoxin) [Homo sapiens] | neurocalcin [Bos | taurus] | (AF104419) decoy | receptor 3 [Homo | sapiens] | (AK000496) unnamed | protein product [Homo | sapiens] | rhoHP1 [Homo | sapiens] | (AF151882) CGI-124 | protein [Homo sapiens] | (AJ002030) | progresterone binding | protein [Homo sapiens] | tight junction (zonula | occludens) protein ZO- | I Homo sapiens | contains 10 ankyrin- | like repeats; similar to | human ankyrin, 1 | bursaria Chlorella virus | 1] | 100 kDa protein |
| | | | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | - | | blastx.2 | | | | | blastx.2 |
| | | | | 936 | | 937 | | | 626 | | | 940 | _ | 941 | | 942 | | | 943 | | | 944 | | | | | 945 |
| | | | | 1061388 | | 1061466 | | | 1061543 | | | 1061629 | | 1061694 | | 1061708 | | | 1061765 | | | 1061766 | | | | | 1061790 |
| | | | | HWLLG38 | | HTPCH84 | | | HLGDA34 | | | HAICB08 | | HVVAW6 | 0 | HPDVB50 | | | HAZAY40 | | | HACMZ51 | | | | | HUXAL63 |

| 953 | 941 | 398 | 398 | 941 | 914 | 941 | 929 | 941 | 914 | 686 | 929 | 929 | 941 | 167 | 926 | 149 | 149 | 377 | 155 | 914 | 149 | 365 | 155 | 143 | 371 | 944 | 143 | 188 | 215 |
|---------------------|---------------------|------------------------|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 3 | 447 | 27 | 21 | 969 | 693 | 969 | 681 | 999 | 693 | 999 | 684 | 657 | 999 | 12 | 969 | 9 | 15 | 6 | m | 829 | m | 6 | m | 3 | 246 | 837 | m | 15 | 66 |
| %66 | 37% | 32% | 34% | 45% | 40% | 41% | 42% | 38% | 36% | 32% | 34% | 34% | 34% | 43% | 35% | 45% | 47% | 31% | 46% | 35% | 40% | 73% | 35% | 38% | 40% | 41% | 34% | 73% | 78% |
| gb AAB37459.1 | | | | | | | | | | - | | | | | | | | | | | | | | | | , | | | |
| latent transforming | growth factor-beta- | binding protein-2, 1 1 | • | | | | | | | | | | | | | | | | , | | | | | | | | | | |
| blastx.2 | | • | | | | | | | | | | | | | | • | | | | | | _ | | | | | | | |
| 946 | | | | | ••• | | | | - | | | | | | | | - | | | | | | | | | | | | |
| 1061886 | ` | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HLCLX57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-----|-----|-----|-------------------|--------------------------|--------------------|-----------------------|----------|------|------|------|------|-------------------|------------------------|---------|-------------------|------------------------|-------------------|--------------------------------------|-----------|--------------------|----------------------|--------------------------------------|----------------|----------------------|----------------|
| 252 | 483 | 468 | 1130 | | 1290 | 391 | 1323. | 1528 | 1805 | 2170 | 1553 | 2338 | • | | 1234 | 1 | 1165 | | | 1654 | | - | 1535 | | |
| 118 | 280 | 427 | 519 | | 181 | 29 | 1141 | 1460 | 1710 | 1883 | 1506 | 284 | | | 200 | 100 | 95 | | , | 209 | | | 798 | | |
| 35% | 22% | 57% | %66 | | %98 | %66. | 27% | 34% | 33% | 27% | 20% | %66 | | | %66 | | 47% | | | 100% | | | %16 | | |
| | | | gb AAA30514.1 | | dbj BAA91446.1 | | | | | | | gb AAC14573.1 | | | gb AAD46623.2 AF1 | 02000 1 | gb[AAF21308.1] | | | gb AAA84934.1 | | • | emb CAB43253.1 | | |
| | | | factor activating | exoenzyme S [Bos taurus] | (AK000963) unnamed | protein product [Homo | sapiens] | | | | | (AF059617) serum- | inducible kinase [Homo | sapiens | (AF162680) STRIN | protein [Homo sapiens] | (AF113596) mosaic | serine protease epitheliasin [Mus | musculus] | retinoic acid- and | interferon-inducible | S&N, protein KLS& THomo sanjans | (AL050060) | hypothetical protein | [Homo sapiens] |
| | | | blastx.2 | : | blastx.2 | | | | | | | blastx.2 | | | blastx.2 | , | blastx.2 | | | blastx.2 | | | blastx.2 | | |
| | | | 947 | | 948 | | | | | | | 949 | | | 950 | | 951 | | | 952 | | | 954 | | |
| | | | 1061935 | | 1062057 | | | | | | | 1062079 | | | 1062084 | | 1062123 | | | 1062139 | | | 1062309 | | |
| | | | HMALF63 | | HACMR36 | | | | | | | HAOSM08 | | | HTEFM89 | | HCHAK72 | | | HPAME12 | | | HCE4F10 | | |

| | · | | · | | | | | |
|------------|---------|-------|------------|--------------------------------------|---------------------------|-------|-------------|-------|
| HBCBE63 | 1062328 | 955 | blastx.2 | (AF007170) unknown | gb AAC39582.1 | 100% | 191 | 790 |
| _ | | | | [Homo sapiens] | | %69 | 87 | 251 |
| | | | | | | 87% | 25 | 96 |
| | | | | | | 21% | 7 | 63 |
| HSSJ019 | 1062346 | 956 | blastx.2 | endonuclease G [Bos | emb CAA51320.1 | %16 | 361 | 248 |
| | | | | taurus] | | 24% | 1093 | 887 |
| HE8NQ23 | 1062369 | 256 | blastx.2 | (AF062006) orphan G | gb AAC28019.1 | %66 | 574 | 1419 |
| | | | | protein-coupled | | 100% | 416 | 571 |
| | | | | receptor HG38 [Homo | | 87% | 171 | 263 |
| | | | | sapiens] | | | | |
| HTELJ95 | 1062431 | 856 | blastx.2 | (AB006679) ATP | dbj BAA21881.1 | %66 | 272 | 946 |
| | | | | binding protein [Homo | | | | |
| Caronaria | 1000435 | 050 | 1,10,040.0 | (A E111050) Total Little | 21 A A DOCZOE 11 | 7000 | 117 | 21.20 |
| nircrou | 1002433 | 454 | OldSLX.2 | (AF 111009) Iduopiniin | goldan days | 20% | 1001 | 2717 |
| | | | | 2 Spince variant basae | | 4 / % | 1221 | 1 |
| TITITITION | 1000544 | 170 | 110 atr. 2 | (A E1 50 405) | ~b 4 A D 13756 1 A E 1 | 7000 | , | 1662 |
| HFK1182 | 1002344 | 707 | Diastx.2 | (Ar132493) | golAAD45/30.1 AF1 | 20%0 | 7 ; | 1002 |
| | | | | protocadherin beta 2 | 52495_1 | 30% | 70 | 1297 |
| | | | | [Homo sapiens] | | 76% | 26 | 1267 |
| HE2LW42 | 1062574 | .796 | blastx.2 | (AF090934) PRO0518 [Homo saniens] | gb AAF24048.1 AF0 | 100% | 1267 | 1079 |
| HOGCE44 | 1062586 | 963 | blastx.2 | protein tyrosine | gb AAA36528.1 | %66 | 156 | 2561 |
| | | | | phosphatase (EC | | | • | |
| | | | | 3.1.3.48) [Homo | | | | |
| | | | | sapiens] | | | | |
| HOVJJ72 | 1062626 | - 496 | blastx.2 | latent TGF-beta | emb CAA73944.1 | 85% | 547 | 1782 |
| | | | | binding protein-4 | | 91% | 203 | 559 |
| _ | | | • | [Homo sapiens] | | 85% | 1 | 204 |
| | | | | | | | | |

| 1728 | 363 | 1296 | 885 | 1869 | 1920 | 276 | 1926 | 198 | 1761 | 1734 | 1761 | 1881 | 198 | 1116 | 1743 | 198 | 153 | 583 | 268 | 1164 | 268 | 298 | 268 | 256 | 280 | 268 | 328 | 301 | 493 |
|------|-----|-------------|-----|------|------|-----|------|-----|------|-------------|------|------|------|------|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-------------|-----------|-----|-----|
| 562 | _ | 16 | 16 | 1537 | 1132 | 4 | 1465 | - | 1507 | 1435 | 1474 | 1366 | 4 | 553 | 1453 | 34 | 16 | 212 | 209 | 295 | 215 | 215 | 206 | 410 | 215 | 215 | 212 | 212 | 245 |
| 30% | 45% | 79% | 30% | 33% | 33% | 41% | 32% | 48% | 38% | 35% | 36% | 73% | 47% | 767 | 38% | 36% | 34% | 23% | %09 | 25% | %99 | 23% | 42% | 32% | 52% | 22% | 38% | 40% | 75% |
| | • | | | | | | | • | | | | | | | | | | | | | | | | | | | | | |
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| | | <u></u> | | | | | | | | _ | | | | | | | | | | | | | | | | · <u>·</u> | | - | : |
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|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|------|------|------|------|-----|-----|-----|-----|------|------|------|------|------|------|------|--------------------|--------------------------------|------------------|
| 346 | 307 | 271 | 210 | 265 | 310 | 921 | 1930 | 1861 | 265 | 460 | 1838 | 1842 | 1891 | 1450 | 95 | 406 | 584 | 269 | 1421 | 1969 | 1421 | 938 | 1352 | 1493 | 1266 | 320 | | 1392 |
| 215 | 212 | 500 | 4 | 215 | 212 | 841 | 1766 | 1667 | 230 | 215 | 1764 | 1792 | 1859 | 1391 | 12 | 254 | 549 | 838 | 1633 | 2007 | 1621 | 1024 | 1552 | 1525 | 1295 | 15 | | 4 |
| 37% | 37% | 45% | 73% | 25% | 30% | 29% | 32% | 32% | 28% | 767 | %95 | 28% | %69 | 40% | 37% | 37% | %99 | 87% | 34% | %69 | 30% | 38% | 30% | 93% | %0/ | 100% | | %56 |
| | | | | | | | | | | | | , | | | | | | | | | | | | | | gb AAA35914.1 | | emb CAA79635.1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | guanine nucleotide | exchange factor [Homo sapiens] | thrombospondin-4 |
| | | | | | | | | | | | | | | | | - | | | | | | | | | | blastx.2 | | blastx.2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 965 | | 996 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 1062628 | | 1062629 |
| | | | | | • | | | | | | | | | | | | | | | | | | | | | HODBT14 | | HBOEB83 |

| | 247 | 247 | 247 | 337 | 514 | 247 | 247 | 490 | 468 | 247 | 259 | 468 | 462 | 468 | 468 | 456 | 471 | 468 | 468 | 468 | 468 | 423 | 313 | 459 | 1112 | | 814 | 472 |
|----------------|---------------|------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|-----------------------|-----------------------|------------------------|
| | 2 | 2 | 2 | 7 | 2 | 7 | 2 | 2 | 250 | 2 | 2 | 250 | 250 | 259 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 2 | 253 | 171 | | 188 | 143 |
| | 74% | 74% | 73% | %95 | 40% | %69 | %69 | 41% | 78% | %19 | %99 | 71% | 73% | 77% | 71% | 75% | %02 | %69 | 71% | 64% | 63% | 72% | 38% | 46% | 20% | | 100% | 31% |
| | gb AAA79179.1 | | | | | | | | | | | | | | | | | | | | | | | | dbj BAA91301.1 | | gb AAA58659.1 | |
| [Homo sapiens] | repressor | transcriptional factor | [Homo sapiens] | | | | | | | | | | | | | | | | | | | | | | (AK000642) unnamed | protein product [Homo | high mobility group 2 | protein [Homo sapiens] |
| | blastx.2 | | | | | | | , | | | | | | | | | | | | _ | | | | | blastx.2 | | blastx.2 | |
| , | <i>L</i> 96 | | | | | | | | | | | | | | | | | | | | | | | | 896 | | 696 | |
| | 1062631 | | | • | | | | | | | | | - | | | | | | | | | | | | 1062655 | | 1062679 | · |
| | HODCT96 | | | | | | | | | | | | | | | | | | | | | | | | HTXJE60 | | HUSIQ62 | ' |

| 1562 | 649 | 1910 | 1063 | 928 | 1055 | 946 | 460 | 705 | 705 | 705 | 705 | 999 | 702 | 969 | 705 | 705 | 705 | 705 | 705 | 705 |
|--------------------------------------|-----------------------|---|------------------|----------|------|-----|-----|---------------------|----------------|-----|-----|-----|-----|-----|-----|------------|-----|-----|-----|-----|
| 975 | 365 | 360 | 728 | 728 | 735 | 734 | 119 | 1 | - | | | | _ | | - | 7-4 | _ | | 10 | 1 |
| 93% | %16 | %66 | 36% | 36% | 36% | 38% | 27% | %86 | 77% | %92 | 76% | 81% | 75% | 77% | 75% | 74% | %91 | 74% | 75% | 74% |
| gb AAF29140.1 AF1 61525_1 | dbj BAA08312.1 | gb AAD51367.1 AF1 77203_1 | emb CAA46283.1 | | | | | gb AAA59469.1 | | | | | | | | | | | | - |
| (AF161525) HSPC177 [Homo sapiens] | LIMK-2 [Homo sapiens] | (AF177203) cerebral cell adhesion molecule [Homo sapiens] | extensin [Volvox | carteri] | | | | zinc finger protein | [Homo sapiens] | ı | | | | | | | | | | |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | | | blastx.2 | | | | | | | | | | | | |
| 971 | 972 | 973 | 974 | | | | | 975 | | | | | | | | | | | | |
| 1062718 | 1062743 | 1062785 | 1062795 | | | | | 1062840 | | | | | | | | | | | | |
| HKBAK29 | HPMCX26 | HFKHF51 | HUCPE28 | | | | | HPWAH30 | | | | | | | | | | | | |

| 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 705 | 815 | 815 | 815 | 815 | 815 | 815 | 815 | 815 | 815 | 815 | 815 | 815 | 815 |
|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|
| 1 | | - | | - | | _ | - | _ | - | | - | Г | _ | | Τ | 163 | 702 | 723 | 723 | 702 | 723 | 702 | 723 | 702 | 723 | 702 | 702 | 726 | 723 |
| 74% | 72% | 73% | 72% | 71% | 72% | 71% | 71% | 71% | 71% | %02 | 71% | 71% | 71% | %19 | 63% | 26% | 25% | 51% | 51% | 45% | 48% | 45% | 45% | 39% | 45% | 39% | 39% | 46% | 45% |
| | | | | | | | | | | | | | | | - | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | - | | | | | | • | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | <u> </u> | | | ·- | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | |
| | _ | | | | | | | | | | | | | | | - | | - | | | | | | | | | | | |
| | | | | | | | | | | _ | | | | | | | | | | | | | | | | | | | |

| 815 | 908 | 815 | 815 | 815 | 815 | 808 | 815 | 815 | 815 | 210 | 190 | 259 | 478 | 116 | 419 | 245 |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|--------------------------------|--|---|--|---|---|--------------------------|
| 702 | 723 | 702 | 723 | 723 | 723 | 726 | 726 | 726 | 726 | 10 | 2 | 2 | 35 | E | 42 | 3 |
| 36% | . 42% | 36% | 41% | 41% | 41% | 42% | 43% | 43% | 43% | %56 | %58 | %68 | 93% | | 100% | 100% |
| | | | | | | | | | | gb AAA19775.1 | gb AAB59501.1 | dbj[BAA07290.1] | gb AAA24905.1 | gb AAB65437.1 | gb AAA82926.1 | emb CAA52882.1 |
| | | | | | | | ٠ | | | cytochrome b [Homo sapiens] | amyloid-beta protein [Homo sapiens] | NADH dehydrogenase subunit 1 [Homo sapiens] | TraC protein (gtg start codon) [Plasmid F] | (AF013215) ribosomal protein S2 [Bos taurus] | protein kinase C inhibitor-I [Homo sapiens] | Keratin 8 [Homo sapiens] |
| | | | | | | | | | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | | | | | | | | | | 916 | 21.6 | 978 | 982 | 985 | 986 | 987 |
| | | | | | | | | | | Н6ЕDQ51R | HA5AU29R | HACBX26 R | HACMH72 R | HACMS55 R | HACMX77 R | HACMZ45 HACMZ45 |
| | | | | | | | | | | Н6ЕDQ51 | HASAU29 | HACBX26 | HACMH72 | HACMS55 | HACMX77 | HACMZ45 |

| 466 | 404 | 809 | 91 | 200 | 481 | 522 | 96 | | 376 | 134 | **** | | | 549 | | | | 267 | 359 | | 216 | |
|---------------|--------------------------------------|---------------------------------------|------------------------|--------------------------------------|----------------|---------------------------------------|---------------|------------------------------------|---------------|-----------------------|-----------------|---------------------|---------|------------------------|----------|----------------------|----------|------------------|---------------------|----------------|-------------------------|----------------|
| 2 | 267 | 3 | 2 | 96 | 62 | 481 | - | | 116 | 54 | | | | | | | | 166 | 273 | | 9/ | |
| %19 | 78% | %98 | 100% | %56 | %56 | 95% | %96 | ·· - | 74% | 74% | | | | 73% | | | | %88 | 22% | | %06 | |
| gb AAB94632.1 | | gb AAA36044.1 | emb[CAA31376.1] | gb AAA60284.1 | emb CAA24026.1 | | gb AAB72005.1 | | gb AAC12952.1 | | | | | emb CAA39794.1 | | | | gb AAA36471.1 | | | gb AAA36161.1 | |
| (AC003956) | acetolactate synthase [Homo sapiens] | 40-kDa keratin protein [Homo sapiens] | cytokeratin 8 (279 AA) | ribosomal protein S17 [Homo sapiens] | URF 1 (NADH | dehydrogenase subunit) [Homo sapiens] | (AF016252) | Spinophilin [Rattus norvegicus] | (AC004544) | cytochrome C oxidase; | match to P14406 | (PID:g117121) [Homo | sapiens | delta- aminolevulinate | synthase | (housekeeping) [Homo | sapiens] | acidic ribosomal | phosphoprotein (P1) | [Homo sapiens] | laminin-binding protein | [Homo sapiens] |
| blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | | | | blastx.2 | | | | blastx.2 | | | blastx.2 | |
| 886 | | 991 | 992 | 993 | 966 | | 866 | | 666 | | | | | 1002 | | | | 1004 | | | 1005 | |
| HACND54 | చ | HACNF21R | HACNF41R | HACNI47R | HADET44R | | HAHHD12 | ~ | HALSG11R | | | | | HAOSB87R | | | | HAOSE70R | | | HAOSF68R | |
| HACND54 | | HACNF21 | HACNF41 | HACNI47 | HADET44 | | HAHHD12 | | HALSG11 | | | | | HAOSB87 | | | | HAOSE70 | | | HAOSF68 | |

| 452 | 330 | 142 | 142 | 233 | 224 | 332 | 405 | 255 | 353 | 303 | | 200 | 379 | 494 | 27 | 343 | 96 | 572 | 429 | 451 | 170 | | | . 365 | 454 |
|---|-------------------------------------|-------------------------|----------------------|-----|-----|-----|-----|-----|--|--------------------|----------------|---------------|----------------------|-----------------|----------|-------------------|--------------------|----------------------|-----|---|----------------|-------------------|----------------|------------------|------------------------|
| 111 | 10 | 2 | 2 | 135 | 135 | 156 | 223 | 223 | 3 | 4 | | 30 | 224 | 336 | 1 | 98 | 4 | 432 | 340 | 2 | 3 | | | 36. | 398 |
| 82% | %56 | 100% | 100% | 75% | 73% | 46% | 39% | 72% | %56 | 100% | | 94% | %96 | 71% | 88% | 91% | 93% | 22% | %08 | %86 | 94% | | | %96 | 84% |
| gb AAA60286.1 | gb[AAA03081.1 | pir[JH0302]JH0302 | - - | | | | | | emb CAA26879.1 | gb AAA36155.1 | | gb AAA51681.1 | | | | gb AAD53521.1 AF1 | 55581_1 | | | gb AAD27722.1 AF1 32947 1 | dbj BAA02991.1 | | | emb CAA39417.1 | |
| ribosomal protein S20 [Homo sapiens] | ribosomal protein L7 [Homo sapiens] | polyubiquitin - tobacco | hornworm (fragments) | • | | | | | lactate dehydrogenase- A [Homo sapiens] | Ku protein subunit | [Homo sapiens] | S- | adenosylhomocysteine | hydrolase [Homo | sapiens] | (AF155581) | proteasome subunit | beta 7 [Danio rerio] | | (AF132947) CGI-13 protein [Homo sapiens] | carboxyl | methyltransferase | [Homo sapiens] | HL23 ribosomal | protein [Homo sapiens] |
| blastx.2 | blastx.2 | blastx.2 | | | | | _ | | blastx.2 | blastx.2 | | blastx.2 | | | | blastx.2 | | | | blastx.2 | blastx.2 | | | blastx.2 | |
| 9001 | 1007 | 1008 | | | | | | | 1009 | 1011 | | 1012 | - | | | 1013 | | | | 1021 | 1023 | | | 1026 | |
| HAOSG95 R | HAOSI79R | HAOSJ27R | | | | | - | | HAOSJ33R | HAOSK38 | R | HAOSL36R | | | | HAOSL47R | | | | HAOTE06R | HAOTF90R | | | HAOTI07 HAOTI07R | |
| HAOSG95 | HAOSI79 | HAOSJ27 | | | | | | | HAOSJ33 | HAOSK38 | | HAOSL36 | | | | HAOSL47 | | • | | HAOTE06 | HAOTF90 | | | HAOTI07 | |

| 405 | 356 | 376 | | | | 452 | | | 201 | | | | 797 | 516 | 535 | 281 | 472 | | 258 | | 245 | | 287 | 551 | 500 | 478 | 555 |
|-----|------------------|------------|---------------|------------------|--------------|----------------|---------------------|---------------------|-------------------|----------------|-----------------|------------|----------------------|-----------------|---------|------|-------------------|-------------------------------------|-----------------------|----------------|-----------------|----------|---------------|---------|-----|------------------|-------------------------------|
| 361 | 6 | 332 | | | | 57 | | | - | | | | 2 | 274 | 473 | 261 | 146 | | 106 | | 12 | | 3 | m | 3 | 53 | 250 |
| %08 | %88 | 23% | | | | %16 | | | 100% | | | | %06 | 79% | %06 | 100% | 45% | | %86 | | 62% | | %26 | 79% | 36% | 74% | %09 |
| | sp Q99426 CKAP_H | UMAN | | | | emb CAA30792.1 | | | sp P05787 K2C8_HU | MAN | | | dbj BAA07292.1 | | | | pir JC1348 JC1348 | | dbj BAA11465.1 | | gb AAC16021.1 | | gb AAA91639.1 | | | emb CAA79716.1 | , |
| | CYTOSKELETON- | ASSOCIATED | PROTEIN CKAPI | (TUBULIN FOLDING | COFACTOR B). | ME491 antigen | precursor (AA -1 to | 237) [Homo sapiens] | KERATIN, TYPE II | CYTOSKELETAL 8 | (CYTOKERATIN 8) | (K8) (CK 1 | cytochrome c oxidase | subunit 1 [Homo | sapiens | • | hypothetical 18K | protein - goldfish mitochondrion | ribosomal protein L39 | [Homo sapiens] | CAG-isl 7 [Homo | sapiens] | lumican [Homo | sapiens | | human elongation | factor-1-delta [Homo sapiens] |
| | blastx.2 | | | | | blastx.2 | | | blastx.2 | | | | blastx.2 | | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | |
| | 1027 | | , | | | 1028 | | | 1029 | | | | 1032 | | | | 1033 | | 1035 | | 1037 | | 1042 | | | 1043 | |
| | HAOTT79R | | | | | HAOTU79 | Я | | HAOTW22 | 8 | | | HAPNK45 | 8 | | | HAPPR43R | | HAQML40 | R | HAUAK54 | R | HAZAC68 | R | | HAZAD13 | R |
| | HAOTT79 | | , | | | HAOTU79 | | | HAOTW22 HAOTW22 | | | | HAPNK45 | | | | HAPPR43 | | HAQML40 | • | HAUAKS4 HAUAKS4 | | HAZAC68 | | | HAZAD13 | |

| 512 | 335 | 413 | 347 | 392 | 344 | 347 | 466 | | 260 | | 537 | 580 | 611 | 605 | 389 | | 424 | | | | 323 |
|-----------------------|----------------|-----|-----|-----|-----|-----|-----------------|---------------------------|-------------------|-----------------|---------------------|-------------------|---------------------|-----|---|----------|---------------------------------|----------------|----------|---|-----------------------|
| 84 | 105 | 105 | 123 | 69 | 105 | 18 | 2 | <u>-</u> | 72 | | - | 497 | 579 | 537 | 84 | | 83 | | | | 3 |
| %86 | 46% | 40% | 39% | 36% | 35% | 33% | %96 | | 100% | | %16 | 28% | 81% | 34% | 100% | | 100% | | | | 100% |
| emb CAA26536.1 | | | | | | | emb CAA62211.1 | - | sp P05787 K2C8_HU | NTVINI | ob AAC52622.11 | | | | gb AAD55812.1 | | emb CAB46723.1 | | | | emb CAA66947.1 |
| fibronectin precursor | [Homo sapiens] | | | | • | | unnamed protein | product [Homo sapiens] | KERATIN, TYPE II | (CYTOKERATIN 8) | protein arginine N- | methyltransferase | [Rattus norvegicus] |) | (AF064205) dynactin 1 p135 isoform [Homo | sapiens] | (AL031427) dJ167A19.3 (novel | protein) [Homo | sapiensj | | transmembrane protein |
| blastx.2 | | | | | | | blastx.2 | | blastx.2 | | blastx 2 | | | | blastx.2 | | blastx.2 | | | | blastx.2 |
| 1045 | | | | | | | 1046 | | 1051 | | 1052 | | | | 1053 | | 1056 | | | | 1057 |
| HAZAE44R | | | | | | | HAZAG23 | ~ | HAZAI89R | | HAZAITZR | | | | HAZAQ80 R | | HAZBI39R | | | | HAZBJ69R |
| HAZAE44 | | | | | | | HAZAG23 | | HAZAI89 | | HAZAI72 | | | | HAZAQ80 | | HAZBI39 | | | , | HAZBJ69 |

| | 1 297 | 371 427 457 606 | 313 507 116 244 506 574 | 206 57 | 2 244 249 329 | 3 416 415 600 | 115 273 | 77 718 702 782 | 39 275 | 1 216 |
|-------------------------|--|---|-------------------------------------|--|---|--|----------------------|---------------------------------------|---|-------------------|
| | %86 | 89% 3 46% 4 | 90% 100% 1 86% 5 | 61% | 58% 44% | 91% 88% 4 | 100% | 98% 55% | 100% | %1% |
| | 2.1 | <u></u> | | 11 | 1] | 11: | | 11 | | - |
| | emb CAB55922.1 | dbj BAA91496.1 | gb AAA29965.1 | gb AAA58585.1 | gb AAC23757.1 | dbj BAA85270.1 | pir S33413 S33413 | gb AAA99891.1 | emb CAA50793.1 | gb AAC03787.1 |
| [Oryctolagus cuniculus] | (AL117434) hypothetical protein [Homo sapiens] | (AK001079) unnamed protein product [Homo sapiens] | histone H3 [Spisula solidissima] | hemolysin [Acanthamoeba polyphaga] | (AC003040) unknown protein [Arabidopsis thaliana] | cytochrome c oxidase subunit 1 [Pan troglodytes] | NuMA protein - human | prolylcarboxypeptidase [Homo sapiens] | phospholipid hydroperoxide glutathione peroxidase [Homo sapiens] | (AF047470) malate |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 1063 | 1065 | 1067 | 1068 | 1069 | 1071 | 1073 | 1074 | 1075 | 1076 |
| | HBJHY72R P00B | HBXCG52 R | HCACS53R P00A | HCHAJ85R | HCHMM71 R | HCLBH21R | HCOMA72 R | HCOMB04 R | HCOMD38 R | HCOMD61 |
| | нвлну72 | HBXCG52 | HCACS53 | HCHAJ85 | HCHMM7 | HCLBH21 | HCOMA72 HCOMA72 | HCOMB04 | нсомрз8 | HCOMD61 |

| 287 | 655 | 522 98 | 646 | 491 | 540 | 301 | 268 | | | | | 470 | | 176 | • | | 282 | •• |
|--|---|---|---|--|-----------------|--------------------|----------|----------------|---------------------|-----------------|------------------------------|----------------|--------------------|------------------|------------------------|---------------------|-----------------|---|
| 240 | 14 | 100 | 35 | 315 | 304 | 68 | 518 | | | | | 273 | | 298 | | | 4 | |
| 75% | %08 | 71:% 100% | %9 <i>L</i> | %58 | %65 | %99 | 64% | | | | | %06 | | 100% | | | %86 | |
| | gb AAB03345.1 | gb AAA18502.1 | emb[CAA55026.1] | gb AAB00807.1 | emb[CAA86061.1] | - | | | | | | emb CAA71575.1 | | dbj BAA03853.1 | | | gb AAC05826.1 | |
| dehydrogenase precursor [Homo sapiens] | hypothetical protein 384D8_6 [Homo sapiens] | elongation factor 1 alpha [Oryctolagus cuniculus] | ribosomal protein L15 [Rattus norvegicus] | ZZ:beta-Gal' IgG- binding fusion protein [unidentified cloning 1 | similar to 40S | ribosomal protein; | cDNA EST | CEMSA13F comes | from 1 1 gene; cDNA | EST EMBL:M79582 | comes from this gene; cDN | fused-ccdB | [Escherichia coli] | The polymorphysm | (RFLP) of this gene is | associated with 1 1 | (AF042857) lung | cancer antigen NY-LU-12 variant A [Homo |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | • | | | | | blastx.2 | | blastx.2 | | | blastx.2 | |
| | 1078 | 1079 | 1080 | 1083 | 1084 | | | | | | | 1085 | | 1087 | | | 1088 | |
| R | HCOMF52 R | HCOMG28 R | HCOMG40 HCOMG40 R | HCOMI30R | HCOMI37R | | | | | | | HCOML11 | R | HCOMMS5 | R | | HCOMO58 HCOMO58 | ~ |
| | HCOMF52 | HCOMG28 | HCOMG40 | HCOMI30 | HCOMI37 | | | | , | | | HCOML11 | | HCOMMS | 2 | | HCOMO58 | |

| 133 | 133 81 8 8 8 142 111 811 81 | 133 81 8 8 8 142 111 81 81 84 84 84 84 84 84 84 84 84 84 84 84 84 | 133 81 8 8 8 142 111 81 81 81 83 426 426 57 | 133 5 81 8 8 142 11 81 81 81 81 84 84 84 84 87 86 87 88 81 81 81 81 81 81 81 81 81 | 133 81 8 8 142 111 81 81 84 84 84 84 84 84 84 84 84 86 190 335 426 104 567 65 |
|--|---|--|--|---|--|
| sp P09651 ROA1_H 65% | | <u> </u> | H, | H, | H, |
| | 96% 100% 57% 34% 34% 62% 62% 44% | | | | |
| UMAN | | 4A51922.1 | AA51922.1 AA16329.1 | 4A51922.1 4A16329.1 | 4A51922.1 4A16329.1 AA13528.1 4C04502.1 |
| | | gb AAA51922.1 | gb AAA51922.1 gb AAA16329.1 | gb AAA51922.1 gb AAA16329.1 dbj BAA13528.1 | gb AAA51922.1 gb AAA16329.1 dbj BAA13528.1 gb AAC04502.1 |
| | TEIN A1). | Â | | | |
| RIBONUCLEOPROTE IN A1 1 (HNRNP CORE PROTEIN A1). | | cathepsin D [Homo | cathepsin D [Homo sapiens] | cathepsin D [Homo sapiens] ribosomal protein L18 [Homo sapiens] ribosomal protein S13 | cathepsin D [Homo sapiens] ribosomal protein L18 Homo sapiens] ribosomal protein S13 Homo sapiens] (AC004240) match to Z43555 (NID:g572788) [Homo sapiens] |
| IN A. | | | | | |
| ************************************** | | 91 blastx.2 | | | |
| <u></u> | | | | | |
| | | HCONC18 RP00B | HCONC18 RP00B HCONK56 | HCONC18 RP00B HCONK56 R HCONK56 | HCONC18 RP00B HCONK56 R HCONL49 R HCONO17 R |
| ಜ | | | | | HCONC18 HCONK56 HCONL49 HCONO17 |

| 579 | 398 | 426 | 281 | 518 | 627 | 889 | | 297 | 473 | 645 | 119 | 334 | | 50, | 487 | 354 | | 703 | 740 | 640 | 069 | 694 | | 166 |
|----------|---------------------|------------------------|------------------|-------------------|-----------|-------------------|--------------------------|--------------------|--------------------------|---------------------|-----|-------------------------|----------------|------------------|---|-------------------------|--------------|-------------------|---------|------------------|---------|------------------|---------|------------------|
| 481 | 3 | 391 | 3 | 3 | 511 | 611 | | 1 | 330 | 529 | 9 | 5 | | Š | 8/ | 64 | | 215 | 681 | 14 | 616 | 26 | | 2 |
| 51% | %96 | %99 | %86 | 92% | 95% | 23% | | 11% | 85% | %69 | 36% | %16 | | 200 | %76 | 100% | | 77% | 20% | %56 | 100% | %06 | | 100% |
| | pir A33281 A33281 | | emb CAA35893.1 | gb AAA52496.1 | -) | | | emb CAA92577.1 | | | | dbj BAA13497.1 | | 11 1 4 6000 4 11 | gb AAA60284.1 | gb AAA30423.1 | | emb CAA29094.1 | | gb AAA59461.1 | | gb AAC79506.1 | | emb CAA48338.1 |
| sapiens] | H+-transporting ATP | synthase (EC 3.6.1.34) | ezrin (AA 1-586) | glyceraldehyde 3- | phosphate | dehydrogenase (EC | 1.2.1.12) [Homo sapiens] | Human tetracycline | transporter-like protein | mRNA [Homo sapiens] | | ornithine decarboxylase | antizyme [Homo | Sapiens | ribosomal protein S1/ [Homo sapiens] | calpactin I light chain | [Bos taurus] | beta-subunit [Bos | taurus] | keratin 18 [Homo | sapiens | claudin-10 [Homo | sapiens | protein-tyrosine |
| | blastx.2 | | blastx.2 | blastx.2 | | | | blastx.2 | | | | blastx.2 | | , | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 |
| | 1101 | | 1104 | 1105 | | | | 1106 | | | | 1111 | | , | 1112 | 1114 | | 1115 | | 1116 | | 1117 | | 1118 |
| | HCONP44R | | HCONR31 | HCONU03 | 8 | | | HCONW62 | × | | | HCOOG32 | R | | HCOOG37 R | HCOOI71R | | HCOOI79R | | HCOOM18 HCOOM18 | R | | R | НСООQ46 |
| | HCONP44 | | HCONR31 | HCONU03 | | | | HCONW6 | 2 | | | HC00G32 | | | HC00G37 | HC00171 | | HC00179 | | HCOOM18 | | HCOOM73 | | HC00Q46 |

| | 439 | 470 | 652 | , | 515 | 406 | 748 | 552 | 310 | 365 | | | 426 | | | ** - | | 7,75 | 573 | |
|----------------------------|---|-----------------|-------------------|----------|----------------------|----------------------|-----|---------------------------|-------------------|------------|-----------------|------------------------|--|-----------|------------|----------------|------------------|-----------------------|------------------|--|
| | 95 | 171 | 473 | | 30 | 233 | 698 | 49 | 218 | 330 | | | 22 | | | | | 1 | 367 | |
| | 100% | %66 | 11% | _ | %55 | 62% | 52% | 78% | 87% | 83% | | | %16 | | | | | 7080 | 62% | |
| | gb AAA35646.1 | gb[AAC69149.1] | | | gb AAD33912.1 AF1 | 43815_1 | | gb AAA59461.1 | gb AAD25980.1 AF0 | 95770_1 | | | sp P32119 TDX1_HU MAN | | | | | 31835 V 37875 V 11111 | orocci orocci ma | |
| phosphatase [Homo sapiens] | neutral protease alpha subunit [Homo sapiens] | (AF019661) zeta | proteasome chain; | musculus | (AF143815) ribosomal | protein [Bos taurus] | | keratin 18 [Homo sapiens] | (AF095770) PTH- | responsive | osteosarcoma D1 | protein [Homo sapiens] | THIOREDOXIN PEROXIDASE 1 (THIOREDOXIN- | DEPENDENT | PEROXIDE 1 | CELL FNHANCING | FACTOR B) (NKEF- | b). | rat | |
| | blastx.2 | blastx.2 | ·· | | blastx.2 | | | blastx.2 | blastx.2 | | | | blastx.2 | | | | | block 2 | Oldsla.2 | |
| | 1120 | 1121 | | | 1122 | | | 1123 | 1126 | | | | 1127 | | • | | | 1120 | 1127 | |
| R | HCOOT43 R | HCOOT68 | ጸ | | HCOOUS6 | R | | HCOOW72 R | HCOOX48 | R | | | HCOOY43 R | | | | | TICODDOGD | ACOLDON, | |
| | HCOOT43 | HCOOT68 | | | HCOOUS6 | | | HCOOW7 | HCOOX48 | | | | HCOOY43 | | | | | TICOPPOS | IICOL BO3 | |

| | 68 | 541 | 400 | | 310 | 337 | | 507 | 593 | 579 625 | | | |
|---|---|---|--|--|---|---|----------------|---|--------------------|-----------------------------------|---------------|----------------------|--------------------------------|
| , | 3 | 104 | 2 | | 62 | 122 | | 4 | 3 | 572 | | | |
| | %96 | %16 | %66 | | % <i>LL</i> | %59 | | 74% | %26 | %98 83% | | | |
| | emb CAA34890.1 | gb AAA31492.1 | gb AAB46780.1 | | emb CAA67127.1 | gb AAC52076.1 | | dbj BAA03401.1 | emb CAA71256.1 | emb CAA20237.1 | | | |
| | homologue of yeast IPP isomerase [Homo sapiens] | ubiquitin conjugating- protein [Oryctolagus cuniculus] | serine protease homolog=NES1 [human, mammary | epithelial cells, 76N, Peptide, 276 aa] [Homo sapiens] | fused; toxic gene [synthetic construct] | (AF026246) HERV-E envelope glycoprotein | [Homo sapiens] | 'human homologue of rat ribosomal protein | MEMD protein [Homo | (AL031228) dJ1033B10.9 (Short- | chain alcohol | dehydrogenase family | member (HKE6, RING2)) [Homo |
| | blastx.2 | blastx.2 | blastx.2 | , | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | | | |
| | 1130 | 1131 | 1132 | | 1134 | 1136 | | 1138 | 1139 | 1140 | | | |
| | HCOPC45R | HCOPD67R | HCOPE27R | | HCOPI09R A | HCOPO34R | | HCOPO88R | HCOPV41R | HCOPZ15R | | | |
| | HCOPC45 | HCOPD67 | HCOPE27 | | HCOPI09 | HCOPO34 | | HCOPO88 | HCOPV41 | HCOPZ15 | | | |

| | | | | sapiens] | | | | |
|--------------------------|-----------------|------|----------|--|------------------|------|-------------|-----|
| HCOQA38 HCOQA38 | HCOQA38 R | 1141 | blastx.2 | hBD-1 [Homo sapiens] | emb CAA63405.1 | 100% | 89 | 271 |
| нсоов12 | HCOQB12 R | 1143 | blastx.2 | (AC005600) tuberin [Homo sapiens] | gb AAC34210.1 | 100% | 308 | 309 |
| HC00D29 | HC00D29 | 1147 | blastx.2 | S3 ribosomal protein | gb[AAB19349.1] | 93% | 16 | 588 |
| , ~ | , ' | | | [human, colon, Peptide, | | 25% | 552 | 707 |
| | | | | 243 aa] [Homo sapiens] | • | %09 | 632 | 730 |
| нсоорз8 | HCOQD38 R | 1148 | blastx.2 | HMG1 protein (AA 1 - 215) [Bos taurus] | emb CAA31284.1 | %56 | 112 | 636 |
| НСООДР49 НСООДР49 | HCOQD49 | 1149 | blastx.2 | H+-transporting ATP | pir A32019 PWBOG | %68 | 35 | 532 |
| | R | | | synthase (EC 3.6.1.34) | | %59 | 513 | 692 |
| | | | | gamma chain precursor | | • | | |
| HCOQG37 | HCOQG37 | 1151 | blastx.2 | 1-8D [Homo sapiens] | emb CAA40625.1 | %66 | 51 | 386 |
| , | R | | | • | | 100% | 386 | 409 |
| нсоон46 | нсоон46 нсоон46 | 1153 | blastx.2 | mucin MUC5B [Homo | gb AAC51343.1 | 100% | 95 | 343 |
| | R | · | | sapiens] | | 64% | 324 | 365 |
| HCOQ106 | HCOQJ06R | 1156 | blastx.2 | 37kD Laminin receptor | emb CAA64147.1 | 85% | 56 | 361 |
| | | | | precursor /p40 | | 28% | 352 | 474 |
| | | | | ribosomal associated | | | | • |
| | | | | protein [Gallus gallus] | | | | |
| нсобло7 | HCOQ107R | 1157 | blastx.2 | laminin-binding protein | gb AAA36161.1 | %88 | 9 | 959 |
| | | | | Homo sapiens | | | | |
| HCOQJ79 | HCOQJ79R | 1159 | blastx.2 | elongation factor 1 | gb AAA18502.1 | 83% | | 471 |
| | | | | alpha [Oryctolagus | | | | |
| | | | | cuniculus] | | | | |
| HCOQK86 HCOQK86 | нсоок86 | 1160 | blastx.2 | (AF038129) | gb AAB92373.1 | 94% | 4 | 456 |
| | R | | | polyubiquitin [Ovis | | 94% | 4 | 456 |
| | | | | the same of the sa | | | | |

| | | | | aries | | 93% | 28 | 456 |
|-----------------|---------------|------|----------|--|----------------|-------|-----|-----|
| | | | | | | %26 | 4 | 255 |
| | | | | | | %95 | 440 | 487 |
| | | | | | | 30% | 440 | 925 |
| ٠ | • | : | | | | . 30% | 440 | 556 |
| HCOOL87 | HCOOL87 | 1161 | blastx.2 | glutathione S- | gb AAA56823.1 | %95 | 24 | 521 |
| , | X | | | transferase-pi [Homo | | 41% | 328 | 630 |
| HCOOM87 | HCOOM87 | 1162 | blastx.2 | DRPLA protein [Mus | dbj BAA13450.1 | 52% | 3 | 278 |
| , | , 8 | | | musculus] | | 47% | 17 | 307 |
| HC000079 | HC000079 | 1163 | blastx.2 | TIMP [Homo sapiens] | emb CAA00898.1 | %66 | 2 | 574 |
| , | R | | | | | 61% | 561 | 809 |
| HCOQP32 | HCOQP32R | 1164 | blastx.2 | elongation factor 1- | gb AAA52367.1 | %56 | 15 | 149 |
| , | | | | alpha [Homo sapiens] | | 64% | 151 | 381 |
| HCOQS11 | HCOQS11R | 1165 | blastx.2 | acidic ribosomal | gb AAA36472.1 | %82 | 102 | 398 |
| | | | | phosphoprotein (P2) | | • | | |
| | | | | [Homo sapiens] | | | | |
| HCOQU92 | нсоолэ2 | 1167 | blastx.2 | protein translocation | gb AAA19639.1 | 100% | 91 | 270 |
| | & | , | | complex beta subunit [Canis familiaris] | | 100% | 272 | 301 |
| HCOQV27 HCOQV27 | HCOQV27 | 1168 | blastx.2 | B4-2 protein [Homo | gb AAA85576.1 | %96 | 3 | 239 |
| | R | | | sapiens] | | | | |
| HCOQX38 | HCOQX38 | 1169 | blastx.2 | catechol O- | emb CAA81263.1 | %96 | 32 | 421 |
| | R | | | methyltransferase | | 91% | 421 | 489 |
| | | | | [Homo sapiens] | | %08 | 495 | 539 |
| | | | | | | 100% | 1 | 30 |
| нсоочзз | нсоо́узз В | 1170 | blastx.2 | (AB000910) ribosomal | dbj BAA19210.1 | %96 | 46 | 321 |
| HCOOZ86 | HCOOZ86 | 1173 | blastx.2 | MHC class II HLA- | gb AAA59782.1 | 95% | 106 | 357 |
| | | | | | | | | |

| 470 | 292 | 482 | 317 | 124 | 305 | 305 | 305 | 317 | 317 | 124 | 419 | 245 | 276 | | 369 | 416 | 427 | 463 | 408 | 136 | 409 | 293 | 470 |
|--------------------------|------------------------------------|---|------------------|----------------|-----|-----|-----|-----|-----|-----|----------------------------|--------------------|-----------------|----------|-----------------------|--------------|-----|------------------------|-------------------|------------------|--------------------|----------------|-----------------------|
| 351 | 89 | 75 | 120 | 7 | 126 | 123 | 129 | 120 | 132 | 2 | 3 | 3 | 247 | | 1 | 297 | 332 | 38 | 115 | 38 | 326 | 273 | 255 |
| 77% | %86 | 94% | 100% | 100% | 26% | 46% | 20% | 44% | 43% | 39% | %86 | 91% | %06 | | 87% | 26% | 47% | %16 | 61% | %06 | 53% | 100% | %26 |
| | dbj BAA28169.1 | gb AAA85657.1 | dbj BAA06031.1 | | | | | - | | | emb CAA40655.1 | dbj BAA77672.1 | | | gb AAC48728.1 | | | gb AAA03341.1 | gb AAF17196.1 AF1 | 12208_1 | | | gb AAA91461.1 |
| DR-beta-1 [Homo sapiens] | (AB012122) TIP49 [Homo sapiens] | ribosomal protein L28 [Homo sapiens] | hnRNP B1 protein | [Homo sapiens] | | | | | | | pm5 protein [Homo sapiens] | NADH dehydrogenase | subunit 3 [Homo | sapiens] | IGF binding protein-2 | [Sus scrofa] | | ribosomal protein L23a | (AF112208) 13kDa | differentiation- | associated protein | [Homo sapiens] | UbcHSC [Homo sapiens] |
| | blastx.2 | blastx.2 | blastx.2 | | | | | | | ; | blastx.2 | blastx.2 | | | blastx.2 | | | blastx.2 | blastx.2 | | | | blastx.2 |
| | 1175 | 1177 | 1178 | | | | | | | | 1179 | 1180 | | | 1181 | | | 1182 | 1185 | | | | 1186 |
| R | HCORB20 R | HCORB66 R | HCORI18R | | | | | | | | HCOR125R | HCQCR82 | ع | | HCRME42 | R | | HDABR53 R | HDTAQ74 | | | | HDTBP08R |
| | HCORB20 | HCORB66 | HCORI18 | | | | | | | | HCORI25 | HCQCR82 | , | | HCRME42 | | | HDABR53 | HDTAQ74 | , | | | HDTBP08 |

| 275 | 441 | | 288 | 475 | 549 | | 170 | | | 376 | | - | | 128 | | | 179 | 321 | | 190 | 284 | | 406 | | 517 | | | 325 | |
|----------------------|----------------|--------------|-------------------|-----------|---------------------|---------|-------------------------|--------------------|------------------|----------------------|--------------------|-----------------------|----------|------------------------|----------------|-------------------------|----------------|------------------------|----------------|--------------------|-----------------|----------|---------------------|----------------|--------------------|------------------|----------|----------------|------------------------|
| 27 | 259 | | 49 | 272 | 475 | | 3 | | | 62 | | | · | 3 | | | 3 | 178 | | 2 | 186 | | 152 | | 2 | | | 5 | |
| %68 | %88 | | 93% | %56 | %08 | | 100% | | | 37% | | | | 100% | | | %68 | %68 | : | %08 | %69 | | %96 | | 93% | | - | %06 | |
| dbj BAA85270.1 | | | gb AAD01439.1 | | | | emb CAA59735.1 | | | gb[AAD15346.1] | | | | pir S12206 S12206 | | | emb CAA24033.1 | | | dbj BAA07291.1 | | | gb AAA97434.1 | | gb AAA20843.1 | | | emb CAA24033.1 | |
| cytochrome c oxidase | subunit 1 [Pan | troglodytes] | (AF010472) alpha- | amidating | monooxygenase [Homo | sapiens | alligator Wilm's tumour | protein [Alligator | mississippiensis | (AC004044) predicted | protein of unknown | function [Arabidopsis | thaliana | hypothetical protein 2 | (rRNA external | transcribed spacer) - 1 | URF 3 (NADH | dehydrogenase subunit) | [Homo sapiens] | NADH dehydrogenase | subunit 2 [Homo | sapiens] | cytokine SDF-1-beta | [Homo sapiens] | cytochrome oxidase | subunit II [Homo | sapiens] | URF 3 (NADH | dehydrogenase subunit) |
| blastx.2 | | | blastx.2 | | _ | | blastx.2 | | | blastx.2 | | | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | | blastx.2 | |
| 1188 | | | 1190 | | | | 1191 | | | 1192 | | | | 1193 | | | 1194 | | | 1196 | | | 1198 | | 1199 | | | 1200 | |
| HDTDB88 | 8 | | HE8QX44R | | | | HE9QU94R | | | HEAHF02R | | | | HEEAY40R | | | HEGAF68R | | | HFABK01R | | | HFIBG63R | | HFIJB15R | | | HFIXK57R | ; , |
| HDTDB88 | | | HE8QX44 | | | | HE9QU94 | | | HEAHF02 | | | | HEEAY40 | | | HEGAF68 | | | HFABK01 | | | HFIBG63 | | HFIJB15 | | | HFIXK57 | |

| | 137 | 98 | 527 | 8 | 240 | 258 | 290 | 514 | 175 | | 57 | | 459 | | 236 | 328 | 246 | 474 | | 319 | 129 |
|----------------|---|---------------------------------|----------------|--|---------------------|--|------------------------|--------------------------|----------------|--------------------|-------------------|--------------|-------------------|-----------------------|----------------|------------------------|----------------|-----------------|----------|---------------------------------------|--------------------|
| | 48 | ε. | 99 | - | 4 | 1 | 06 | 341 | 26 | | 347 | | 337 | , | 3 | 248 | 205 | 13 | | 107 | 25 |
| | 100% | %96 | 87% | %0% | 51% | 41% | 100% | 38% | %02 | | %95 | | 75% | | 83% | 85% | 64% | 93% | | 81% | 77% |
| | dbj BAA91782.1 | dbj BAA12090.1 | emb CAA24027.1 | | emb CAB70878.1 | | gb AAA35822.1 | | emb CAA71575.1 | | gb AAC40076.1 | | pir JH0813 JH0813 | | emb CAA24033.1 | | | gb AAC16021.1 | | emb CAB56506.1 | |
| [Homo sapiens] | (AK001601) unnamed protein product [Homo sapiens] | neutral calponin [Homo sapiens] | URF 2 (NADH | denydrogenase subunit) [Homo sapiens] | (A <u>L</u> 137696) | hypothetical protein [Homo sapiens] | folate-binding protein | precursor [Homo sapiéns] | fused-ccdB | [Escherichia coli] | (AF034746) LNXp70 | Mus muscains | GTP-binding | regulatory protein Gs | URF 3 (NADH | dehydrogenase subunit) | [Homo sapiens] | CAG-isl 7 [Homo | sapiens] | (AJ249731) putative | G8.1 protein [Homo |
| | blastx.2 | blastx.2 | blastx.2 | • | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | |
| | 1201 | 1202 | 1203 | | 1204 | | 1205 | | 1206 | | 1207 | | 1208 | | 1209 | | | 1210 | | 1211 | |
| | HFIZQ64R | HFKKK36 R | HFPEC93R | | HFPIX37R | | HFTDK36R | | HFVIB28R | | HFXGR60R | | HHAUD07 | ጸ | HHBF021R | | | HHEVG50 | R | с с с с с с с с с с с с с с с с с с с | RA |
| | HFIZQ64 | HFKKK36 | HFPEC93 | | HFPIX37 | | HFTDK36 | | HFVIB28 | | HFXGR60 | | HHAUD07 | | HFBF021 | | | HHEVG50 | | HHFGQ65 | |

| | 743 | 529 717 | 435 | 351 356 | 138 | 368 | 79 | 480 | 266 | 462 | 276 |
|----------|--|---|-----------------------------|--|---|---------------------------|------------------------|---|--|--|----------------------|
| • | 3 | 517 | 62 | 61 324 | 1 | 3 | 2 | 19 | 8 | 1 | 1 |
| | 78% | 74% | %68 | 84% 100% | 100% | 100% | 100% | 100% | %86 | 100% | %86 |
| | gb AAC25447.1 | emb CAB71165.1 | gb AAA19775.1 | dbj BAA88116.1 | gb AAA31002.1 | gb AAA59461.1 | gb AAA02999.1 | emb CAA63538.1 | gb AAC34214.1 | gb AAA51809.1 | gb AAA17675.1 · · · |
| sapiens] | (AF014888) NADH dehydrogenase subunit 2 [Homo sapiens] | cytochrome oxidase subunit III [Talpa europaea] | cytochrome b [Homo sapiens] | (AB015335) HRIHFB2072 [Homo sapiens] | Na+, K+-ATPase beta- subunit precursor [Sus scrofa] | keratin 18 [Homo sapiens] | antigen [Homo sapiens] | ubiquitin-conjugating enzyme UbcH7 [Homo sapiens] | (AC005545) AP-3 complex delta subunit, partial CDS [Homo 1 | ATP synthase beta subunit precursor [Homo sapiens] | nephropontin [Homo |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 1213 | 1214 | 1215 | 1216 | 1218 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 |
| | HHSFG15R | HHSGP15R | HHSGQ17 R | HKBAD05 R | HKZAE07R | HKZAI14R | HKZAI68R A | HKZAQ39 R | HKZAR58 R | HKZAS59R | HKZAS64R |
| | HHSFG15 | HHSGP15 | HHSGQ17 | HKBAD05 | HKZAE07 | HKZAI14 | HKZAI68 | НКZАQ39 | HKZAR58 | HKZAS59 | HKZAS64 |

| | | | | sapiens | | | | |
|---------|--------------|------|----------|--|----------------|----------------------------------|--------------------------------|---------------------------------|
| HKZAS84 | HKZAS84R | 1226 | blastx.2 | calpain II regulatory subunit (EC 3.4.22.17) | gb AAA30422.1 | 100% | 2 | 103 |
| HKZAV69 | HKZAV69 R | 1227 | blastx.2 | ribosomal protein S17 [Homo sapiens] | gb AAA60284.1 | 100% | ∞ | 412 |
| HKZAV72 | HKZAV72 R | 1228 | blastx.2 | fibronectin precursor [Homo sapiens] | emb CAA26536.1 | 100% | 2 | 163 |
| HKZBB22 | HKZBB22R | 1230 | blastx.2 | (AB015610) ribosomal protein S4X [Chlorocebus aethiops] | dbj BAA36501.1 | 100% | ∞ | 520 |
| HKZBS89 | HKZBS89R | 1231 | blastx.2 | ferritin heavy subunit [Homo sapiens] | gb AAA35830.1 | 100% | - | 381 |
| нгроово | HLDQQ80 R | 1232 | blastx.2 | ATPase subunit 6 [Papio hamadryas] | emb CAA76999.1 | 74% 54% | 2 153 | 142 257 |
| HLDXE19 | HLDXE19R | 1233 | blastx.2 | neuron-restrictive silencer factor [Homo sapiens] | gb AAC50115.1 | %08 | 17 | 187 |
| HLICD55 | HLICDSSR | 1234 | blastx.2 | glutamine:fructose-6- phosphate amidotransferase [Homo sapiens] | gb AAA58502.1 | %96 | 99 | 148 |
| HLJBI37 | HLJBI37R | 1236 | blastx.2 | H(+)-transporting ATP synthase [Bos taurus] | emb CAA45865.1 | 100% 65% 80% 60% 88% | 165 329 83 481 450 | 335 610 187 555 476 |
| HLTHA47 | HLTHA47R | 1237 | blastx.2 | 100 kDa protein [Rattus norvegicus] | emb CAA45756.1 | 82% 88% | 187 380 | 393 406 |

| | | | | _ | | | | | _ | | | | | | | | | | | | | | | | | | | |
|--------------------|------------------------------------|----------------|------------------------|----------------|-------------------|--------------------|---------------|----------------|------------------------|----------------|--------------------|----------------------|-----|-----------------------|----------------|----------------------|------------------------|-------------------|-----------------------|----------------|---------------|-------------------|---------|------|------|------|------|----------------------|
| 723 | | 265 | | | 361 | | | 342 | 517 | 389 | 314 | 351 | | 172 | | 201 | | | 196 | 197 | 155 | 154 | 157 | 156 | 158 | 159 | 153 | 289 |
| 334 | | 7 | | | 104 | | | _ | 377 | 207 | 3 | 298 | | 315 | | 73. | | | 95 | 96 | 6 | 68 | 35 | 91 | 93 | 94 | 91 | 77 |
| 63% | | %06 | | | 46% | | | %98 | 74% | 40% | 85% | 422 | | 75% | | %98 | | | %19 | %29 | 100% | 100% | 100% | 100% | 100% | 100% | 100% | %56 |
| dbj BAA92068.1 | , | emb CAA24026.1 | : | | pir JC1348 JC1348 | | | emb CAA24027.1 | | | emb CAA67630.1 | | | gb AAA51596.1 | | pir C59153 C59153 | | | dbj BAA85438.1 | | | | | | | | | gb AAB28951.1 |
| (AK002071) unnamed | protein product pronic sapiens] | URF 1 (NADH | dehydrogenase subunit) | [Homo sapiens] | hypothetical 18K | protein - goldfish | mitochondrion | URF 2 (NADH | dehydrogenase subunit) | [Homo sapiens] | cytochrome oxidase | subunit I [Hylobates | lar | alcohol dehydrogenase | [Homo sapiens] | cytochrome-c oxidase | (EC 1.9.3.1) chain I - | western lowland 1 | (AP000616) similar to | RING-H2 finger | protein RHA1a | (AF078683) [Oryza | satival | • | | | : | smooth muscle myosin |
| blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | , | blastx.2 | | blastx.2 | | | blastx.2 | • | | | | | | | | blastx.2 |
| 1238 | · | 1241 | | | 1242 | | | 1243 | | | 1244 | | | 1245 | | 1246 | | | 1247 | | | ١ | | | | | | 1249 |
| HLTJA50R | | HLYDI57R | | | HMCF019 | x | | HMCIZ44R | | | HMCJE25R | | | HMSPB25R | | HMVBB04 | 2 | | HNAAE01 | 8 | | | • | | | | ., | HNBUY37 |
| HLTJA50 | | HLYDI57 | | | HIMCF019 | | | HMCIZ44 | | | HMCJE25 | | | HMSPB25 | | HMVBB04 | | | HNAAE01 | | | | | | | | | HNBUY37 |

| | 514 | 243 403 404 435 | 451 | 390 | 422 | 491 541 | 87 | 577 | 535 |
|---|---|---------------------------|---|--|---|---|--|---|---|
| | 242 70 | 1 245 315 244 | 224 | 52 | 114 | 3 509 | .1 | 86 | 101 |
| | 74% 55% | 100% 41% 46% 35% | %16 | %56 | %16 | 83% | 93% | %86 | 100% |
| | gb AAC52058.1 | gb[AAC39523.1] | emb CAB43181.1 | gb AAD05421.1 | gb AAA36471.1 | gb AAA30032.1 | emb CAB42187.1 | emb CAA61582.1 | emb CAA49189.1 |
| heavy chain isoform SM1 [human, umbilical 1 | growth-arrest-specific protein 2 [Homo sapiens] | OS9 [Homo sapiens] | (AL031670) dJ681N20.2 (similar to FTLL1(ferritin, light 1 | (AF044957) NADH:ubiquinone oxidoreductase B15 subunit [Homo sapiens] | acidic ribosomal phosphoprotein (P1) [Homo sapiens] | actin 2 protein [Strongylocentrotus purpuratus] | unnamed protein product [unidentified] | ribosomal protein L21 [Homo sapiens] | ribosomal protein L26 [Homo sapiens] |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 1250 | 1251 | 1252 | 1253 | 1254 | 1257 | 1259 | 1260 | 1261 |
| R | HNBVL57 R | HNHBC18 R | HNJFE85R | HNKCO29 R | HNOAA22 R | HNOAB88 R | HNOACIS HNOACIS | HNOAE50 R | HNOAE65 R |
| | HNBVL57 | HNHBC18 | HNJFE85 | HNKC029 | HNOAA22 | HNOAB88 | HNOAC15 | HNOAE50 | HNOAE65 |

| 555 | 239 | 108 | 319 | 239 | 313 | 239 | 236 | 236 | 236 | 239 | 239 | 236 | 236 | 239 | 236 | 239 | 236 | 239 | 239 | 239 | 319 | 239 | 236 | 239 | 200 | 236 | 239 | 239 |
|--------------------------------------|---------------------|----------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 92 | 54 | — | 221 | 3 | 221 | 21 | 54 | 15 | 15 | 72 | 21 | 12 | n | 15 | 84 | 66 | 15 | 54 | 9 | m | 233 | 69 | 93 | 15 | რ | 93 | 15 | 54 |
| 100% | 64% | 72% | 75% | 37% | %19 | 39% | 44% | 36% | 37% | 44% | 39% | 42% | 38% | 38% | 45% | 48% | 35% | 41% | 35% | 36% | 62% | 42% | 47% | 36% | 38% | 45% | 35% | 38% |
| emb CAA61582.1 | pir A91193 CGBO1S | • | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ribosomal protein L21 [Homo sapiens] | collagen alpha 1(I) | chain - bovine | (fragments) | | | - | | | | | - | | | | | | - | | | | | | | | | | | |
| blastx.2 | blastx.2 | | • | | | | | | | | | | ٠ | | | | | | | | | | | | | | | |
| 1262 | 1264 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HNOAF22 R | HNOAG34 | R | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HNOAF22 HNOAF22 | HNOAG34 | | • | | | | | | | | | | | | | | | | | | | | | | | | | |

93 69 69 69 69 115 1218 227 227 223 233 233 233 223 223 223 44%
41%
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| 239 | 236 | 316 | 96 | 239 | 358 | 319 | 322 | 319 | 319 | 319 | 316 | 316 | 316 | 322 | 322 | 328 | 328 | 108 | 239 | 322 | 316 | 316 | 316 | 319 | 319 | 322 | 316 | 319 | 316 |
|-----|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-------------|-----|-----|--------------|----------|----------|-------------|-----|-------------|-----|-----|-----|-----|-----|-----|--------------|----------------|-------------|-----|
| 69 | n | 233 | _ | 93 | 233 | 227 | 227 | 221 | 218 | 233 | 212 | 227 | 221 | 233 | 221 | 230 | 227 | _ | 93 | 227 | 227 | 233 | 227 | 230 | 227 | 233 | 221 | 233 | 227 |
| 38% | 33% | 23% | 29% | 36% | 45% | 21% | 20% | 45% | 47% | 21% | 45% | 46% | 46% | 20% | 44% | 44% | 45% | 44% | 38% | 45% | 20% | 20% | 20% | 20% | 43% | 46% | 46% | 48% | 46% |
| | | | | | | | | | | _ | | | | | | | | | | | | | | | - | | | | |
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| 322 | 316 | 316 | 316 | 316 | 322 | 322 | 328 | 319 | 316 | 322 | 105 | 322 | 123 | 322 | 316 | 319 | 105 | 108 | 316 | 114 | 105 | 105 | 316 | 316 | 93 | 322 | 93 | 108 | 322 |
|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 233 | 227 | 233 | 227 | 233 | 233 | 227 | 242 | 212 | 227 | 233 | | 230 | 1 | 209 | 260 | 227 | | - | 227 | 1 | _ | | 233 | 221 | _ | 227 | - | _ | 233 |
| 20% | 21% | 20% | 41% | 20% | 46% | 46% | 44% | 41% | 46% | 46% | 45% | 44% | 36% | 45% | 63% | 45% | 44% | 41% | 43% | 45% | 45% | 44% | 46% | 36% | 45% | 45% | 41% | 38% | 46% |
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| 322 | 316 | 108 | 114 | 108 | . 108 | 316 | 322 | 108 | 108 | 328 | 316 | 316 | 322 | 316 | 105 | 108 | 316 | 93 | 316 | 93 | 316 | 316 | 316 | 93 | 93 | 108 | 316 | 316 | 105 |
|-----|-----|-----|-------------|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|-----|
| 233 | 221 | - | - | | - | 212 | 221 | 1 | _ | 233 | 227 | 227 | 233 | 221 | - | | 227 | - | 227 | - | 221 | 227 | 227 | - | - | | 218 | 790 | 1 |
| 43% | 42% | 41% | 36% | 38% | 40% | 40% | 41% | 36% | 38% | 43% | 38% | 43% | 43% | 40% | 37% | 38% | 43% | 38% | 47% | 41% | 40% | 38% | 38% | 41% | 38% | 36% | 38% | 63% | 37% |
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| 108 | 108 | 108 | 316 | 316 | 316 | 108 | 362 | 105 | 108 | 108 | 93 | 123 | 322 | 99 | 105 | 93 | 93 | 105 | 105 | 108 | 328 | 105 | 316 | 316 | 93 | 105 | 93 | 108 | 108 |
| 1 | - | _ | 227 | 227 | 221 | _ | 321 | _ | - | - | _ | - | 212 | - | , | - | _ | _ | - | | 221 | | 212 | 233 | - | - | | | 1 |
| 35% | 36% | 33% | 38% | 43% | 40% | 38% | 64% | 34% | 41% | 41% | 35% | 31% | 40% | 20% | 36% | 41% | 35% | 37% | 37% | 36% | 37% | 34% | 36% | 39% | 38% | 40% | 38% | 38% | 36% |
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| 93 | 108 | 108 | 114 | 105 | 108 | 322 | 93 | 105 | 105 | 316 | 316 | 93 | 108 | 96 | 316 | 123 | 316 | 105 | 108 | 316 | 322 | 93 | 108 | 105 | 322 | 93 | 108 | 108 | 93 |
|-----|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-------------------|-----|-----|-----|-------------|-----|-----|-----|---------|-----|---------------|-----|-----|-----|-----|-----|-----|-------------|-----|-----|
| 1 | - | | - | | - | 233 | - | | - | 230 | 227 | _ | 1 | 1 | 218 | _ | 233 | | | 233 | 233 | _ | _ | - | 233 | - | - | | 1 |
| 41% | 38% | 33% | 31% | 37% | 33% | 40% | 35% | 31% | 34% | 37% | 40% | 38% | 33% | 37% | 36% | 31% | 38% | 36% | 38% | 36% | 40% | 38% | 36% | 37% | 36% | 32% | 33% | 30% | 35% |
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| 108 | 108 | 316 | 316 | 108 | 105 | . 93 | 319 | 322 | 322 | 316 | 99 | 316 | 319 | 71 | 20 | 226 | 98 | 214 | 223 | 77 | 223 | 226 | 20 | 71 | 71 | 98 | 226 | 214 | 214 |
|-----|-----|-----|-----|-----|-----|------|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | - | 218 | 227 | | | _ | 233 | 233 | 221 | 233 | - | 233 | 233 | 238 | 250 | 357 | 238 | 357 | 321 | 235 | 318 | 318 | 238 | 238 | 199 | 238 | 321 | 318 | 318 |
| 33% | 30% | 38% | 35% | 38% | 31% | 35% | 34% | 36% | 36% | 35% | 36% | 35% | 34% | 38% | 34% | 45% | 38% | 44% | 48% | 39% | 20% | 48% | 37% | 35% | 39% | 47% | 46% | 47% | 45% |
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| 98 | 80 | 220 | 226 | 226 | 71 | 214 | 89 | 104 | 86 | 226 | 226 | 226 | 104 | 92 | 226 | 226 | 223 | 71 | 214 | 226 | 223 | 223 | 104 | 71 | 71 | 77 | 217 | 214 | 214 |
|-----|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 238 | 238 | 318 | 360 | 318 | 238 | 318 | 253 | 199 | 238 | 315 | 315 | 357 | 238 | 238 | 318 | 357 | 318 | 238 | 318 | 354 | 318 | 357 | 238 | 238 | 238 | 238 | 318 | 315 | 321 |
| 37% | 30% | 45% | 42% | 48% | 31% | 51% | 79% | 20% | 38% | 46% | 46% | 44% | 38% | 37% | 45% | 40% | 43% | 39% | 44% | 39% | 46% | 44% | 41% | 35% | 38% | 34% | 45% | 44% | 43% |
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| 44% 321 39% 238 | | | | | _ | | | | 238 | 238 | 238 | 235 | 38 | 4 | 8 | ∞ | ∞ | 00 | 00 | ∞ | ∞ | 00 | 00 | | ∞ | 30 | 21 | 7 |
|--------------------|-----|-----|-----|-----|-------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-------|-------------|-------------|-----|-----|-----|------------------|-----|-----|-----|
| 44% | 35% | 47% | 42% | 33% | 36% | % | o | | | | | _ | 7 | 75 | 23 | 23 | 23 | 23 | 23 | 31 | 31 | 318 | 31 | 32 | 31 | χ'n | ίΩ | 32 |
| | | | | | | 2 | 40% | 44% | 35% | 33% | 35% | 34% | 35% | 35% | 38% | 33% | 35% | 35% | . 35% | 45% | 47% | 47% | 45% | 43% | 42% | 36% | 44% | 44% |
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| 68 | 217 | 217 | 220 | 214 | 71 | 3 | 226 | 226 | 223 | 214 | 226 | 226 | 226 | 226 | 226 | 226 | 226 | 223 | 214 | 271 | 226 | 220 | 223 | 226 | 226 | 226 | 226 | 271 | 226 |
|-----|----------------|-----|-----|----------------|-----|-----|-------------|-----|-----|--------------|-----|-----|-----|-----|----------|-----|----------|-----|-----|-------------|-----|-----|----------|-----|-----|----------|-----|-----|-----|
| 235 | 318 | 318 | 318 | 330 | 238 | 92 | 330 | 318 | 318 | 318 | 318 | 321 | 318 | 321 | 321 | 312 | 315 | 315 | 321 | 318 | 321 | 321 | 321 | 357 | 315 | 318 | 318 | 318 | 318 |
| 34% | 43% | 40% | 41% | 35% | 41% | 47% | 40% | 41% | 37% | 37% | 44% | 39% | 38% | 43% | 40% | 41% | 40% | 39% | 44% | %95 | 20% | 40% | 38% | 34% | 40% | 38% | 38% | 52% | 35% |
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| 3 | 3 | 358 | 524 | 255 | 4/ | | 283 | | 299 | 571 | | 618 | | 562 | 290 | 521 | 108 | 254 | | 385 | | 187 | |
|-----|-----|---|---|---------------|------------------------------|----------------|-------------------|----------------|------------------------|-------------------|----------------|-----------------|----------|--------------------|----------------|--------------------|----------|-------------------|------------------------|-------------------------|-------------------|-----------------|----------------------|
| 99 | 65 | . 2 | 69 | 07 | .n | | 62 | | 20 | 2 | | 1 | | 287 | 66 | 96 | | 33 | | 2 | | 2 | |
| 38% | 33% | 87% | %001 | 72% | 75% | | %86 | | 91% | %68 | | %66 | | %88 | 92% | %26 | %26 | 100% | | 100% | | 100% | |
| | | gb AAA18502.1 | dbj BAA19211.1 | gb AAB61308.1 | | | gb AAA36318.1 | | gb AAA36021.1 | gb AAA52390.1 | | dbj BAA04491.1 | | gb AAF28938.1 AF1 | 61378_1 | gb AAA36597.1 | | gb AAB00774.1 | | gb AAA59203.1 | | dbj BAA36616.1 | |
| | | elongation factor 1 alpha [Oryctolagus cuniculus] | (AB000911) ribosomal protein [Sus scrofa] | (AD001528) | spermidine aminoproproferace | [Homo sapiens] | MAP kinase kinase | [Homo sapiens] | Q1Z 7F5 [Homo sapiens] | epoxide hydrolase | [Homo sapiens] | TAXREB107 [Homo | sapiens] | (AF161378) HSPC260 | [Homo sapiens] | scar protein [Homo | sapiens] | proteoglycan core | protein [Homo sapiens] | glutathione transferase | M1 [Homo sapiens] | (AB016193) | transcription factor |
| | | blastx.2 | blastx.2 | blastx.2 | | | blastx.2 | | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | |
| | | 1266 | 1267 | 1270 | | | 1273 | | 1274 | 1275 | | 1276 | | 1278 | | 1279 | | 1280 | | 1281 | | 1283 | |
| | | HNOAH67 R | HNOAJ67R | HNOAL51 | ~ | | HNOA071 | R | HNOAP21 R | HNOA024 | ا | HNOAQ47 | ~ | HNOAR85 | R | HNOAS07 | R | HNOAS36 | R | HNOAS92 | R | HNOAT76 | R |
| | | HNOAH67 | HNOAJ67 | HNOAL51 | | | HNOA071 HNOA071 | | HNOAP21 | HNOA024 | , R | HNOAQ47 | | HNOAR85 HNOAR85 | | HNOAS07 | | HNOAS36 HNOAS36 | | HNOAS92 | | HNOAT76 HNOAT76 | |

| | 439 | 869 | 692 | 765 | 909 | 217 | 388 | 819 | 557 | 193 | | 999 | | 423 | 622 | 464 | 440 | | 360 | | 362 | 498 | 280 | 611 |
|----------------|---|------------------------|-------------------------|----------------|-----------------------|----------------|----------------------|--------------------|----------|------------------|----------------|----------------------|----------------|-----------------------|------------------|---------|-----------------------|---------------------|--------------------------|-----------------------|-----------------------|---------------------|-----|-----|
| | 29 | 7 | 525 | . 694 | 171 | 65 | 2 | 442 | 393 | 2 | | 7 | | 4 | 488 | 435 | 3 | | 40 | | 93 | 262 | 482 | 552 |
| | %66 | 100% | %09 | 462 | 100% | 74% | %89 | 30% | 45% | %86 | | 91% | | %06 | 40% | 100% | %08 | | 74% | | 71% | 70% | %99 | 85% |
| | gb AAA85657.1 | gb AAD03465.1 | • | | gb AAA36157.1 | | gb AAD45865.1 AF0 | 83217_1 | | gb AAA52002.1 | | gb[AAA91344.1] | - | gb AAC02679.1 | | | gb AAA60282.1 | | emblCAA54771.11 | | emb CAA34200.1 | | | |
| [Homo sapiens] | ribosomal protein L28 [Homo sapiens] | translation initiation | factor eIF3 p40 subunit | [Homo sapiens] | ribosomal protein L12 | [Homo sapiens] | (AF083217) WD repeat | protein WDR3 [Homo | sapiens] | alpha-1 type III | collagen [Homo | TARBP-b gene product | [Homo sapiens] | (AF043254) heat shock | protein 75 [Homo | sapiens | ribosomal protein L7a | large subunit [Homo | translational elongation | factor-1 alpha [Danio | tumor protein (AA 1 - | 172) [Homo sapiens] | 1 | |
| | blastx.2 | blastx.2 | | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | - | blastx.2 | | blastx.2 | | blastx.2 | | | |
| | 1284 | 1286 | | | 1287 | | 1288 | | | 1289 | · | 1290 | | 1291 | | | 1292 | | 1293 | | 1295 | | | |
| | HNOAV91 R | HNOBE83 | R | | HNOBV55 | RA | HNOCE63 | R | | HNOCL43 | & | HNOCN02 | R | HNOCN10 | | | HNOCR44 | ~ | HNOCI 103 | R | HNODG11 | 2 | | |
| | HNOAV91 | HNOBE83 | | | HNOBV55 | | HNOCE63 | | | HNOCL43 | | HNOCN02 | | HNOCN10 | | | HNOCR44 | | HNOCLI03 HNOCLI03 | | HNODG11 | | | |

| 453 | 376 | 521 | 480 | 520 | | 283 | 179 | | | | 489 | 513 | | | | 196 | | 268 | | 459 | 491 | 396 | 324 | 402 | 405 |
|--|-------------------|--------------------|---------------------|----------------|---------|---------------------------------------|---------------|----------------------|-----------------|---------|---------------------------------|---------------|-------------------|------------------------|----------------------|-------------------------|-------------------|-----------------------|----------|-----------------------|---------------------|---------|-----|-----|-----|
| 1 | 11 | 384 | 418 | 92 | | 7 | 9 | | | | 22 | 13 | | | | - | • | 2 | | - | 408 | 16 | 13 | 307 | 91 |
| 100% | %86 | 23%. | 54% | 74% | | 100% | 100% | | | | 94% | %98 | | | | %86 | 2 | 73% | | %06 | 100% | 76% | 25% | 25% | 79% |
| emb CAA37375.1 | gb AAF03750.1 AF1 | 10731_1 | | dbj BAA01457.1 | | gb AAD27787.1 AF0 77054 1 | gb AAA51681.1 | | | | gb AAA57047.1 | gb AAC62514.1 | | | | αħΙΔ Δ Δ Π3341 1i | 11111 COVE TO 109 | emb CAA28000.1 | | gb AAB59512.1 | | | | | |
| general transcription factor [Homo sapiens] | (AF110731) | antioxidant enzyme | B166 [Homo sapiens] | midkine [Homo | sapiens | (AF077054) unr protein [Homo sapiens] | S- | adenosylhomocysteine | hydrolase [Homo | sapiens | ubiquitin [synthetic construct] | (AF035718) | mesoderm-specific | basic-helix-loop-helix | protein; Pod-1 [Homo | ribosomal protein I 73a | [Homo sapiens] | plasma gelsolin [Homo | sapiens] | von Willebrand factor | prepropeptide [Homo | sapiens | | | |
| blastx.2 | blastx.2 | - - | | blastx.2 | | blastx.2 | blastx.2 | | | • | blastx.2 | blastx.2 | | | | blocky 2 | 01a5tA:2 | blastx.2 | | blastx.2 | | | | | |
| 1298 | 1299 | | | 1300 | | 1304 | 1305 | | | | 1306 | 1307 | | | | 1200 | 1700 | 1309 | | 1310 | | | | | |
| HNOJA93R | HNOJB10R | | | HNOJB57R | | HNOJH48R | HNOJH52R | | | | HNOJ182R | HNOJI85R | | | | DINOTION | TINOSTRONIU | HNOJ126R | | HNOJK66R | | | | | |
| HNOJA93 | HNOJB10 | | | HNOJB57 | | HNOJH48 | HNOJH52 | | | | HNOJ182 | HNOJI85 | | | | CITOIAT | OZCONILI | HNOJ126 | | HNOJK66 | | | | | |

| 256 | 399 | 402 | 171 | 428 | 277 | 6 | 6 | 277 | 268 | 6 | 3 | 289 | 286 | 6 | 280 | 12 | 12 | n | 12 | 310 | 289 | 265 | 3 | 280 | 280 | 12 | 6 | 280 |
|-----|-----|-----|-----|---|----------------------|----------------------|------------------------|----------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 218 | 319 | 343 | 16 | 3 | 423 | 134 | 134 | 423 | 423 | 131 | 143 | 423 | 402 | 116 | 423 | 128 | 128 | .128 | 128 | 408 | 423 | 426 | 137 | 396 | 408 | 146 | 119 | 357 |
| %69 | 27% | 38% | 32% | %L6 | 93% | 100% | %99 | 53% | 40% | 48% | 36% | 37% | 39% | 44% | 30% | 33% | 28% | 23% | 30% | 42% | 32% | 35% | 27% | 37% | 30% | 22% | 35% | 41% |
| | | | | gb AAA37026.1 | emb[CAA62188.1] | • | | | | | | | | | | | | | | | | | | | | | • | |
| | | | | alpha-tubulin III [Cricetulus griseus] | Protein sequence and | annotation available | soon via Swiss-Prot; 1 | [Homo sapiens] | 1 4 | | | | | | | | | | | | | • | | | | | | |
| | | | | blastx.2 | blastx.2 | | | | | , | | | | | | | | | | | | | | | , | | | |
| | | | | 1312 | 1313 | | | | | | | | | | | | | | | | | | | | | | | - |
| | | | | HNOJM64 R | HNOJOSSR | | | | | | | | | | | | | | | | | | | | | | | : |
| | | | | HNOJM64 | HNOJ055 | | | | | | | | | | | | | | | | | | | | | | | |

| 280 | 12 | 280 | 280 | 310 | 0 | 286 | 298 | 277 | 12 | 93 | 310 | 66 | 12 | 70 | 302 | | 510 | 219 | 259 | | 510 | 324 | 370 | | 457 | .191 | 509 |
|-----|-----|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|------------------|----------------|----------------|---------------------------------------|--------------------|---------------------------------------|----------------------|----------------|------------------|----------------|----------------------|----------------|-----------------------|
| 414 | 116 | 381 | 423 | 426 | 116 | 402 | 426 | 423 | 116 | 158 | 420 | 140 | 128 | 117 | 9 | | 217 | 1 | 38 | | 43 | 52 | 2 | | 74 | . 3 | 33 |
| 78% | 34% | 37% | 25% | 23% | 27% | 35% | 35% | 28% | 78% | 36% | 31% | 35% | 25% | 43% | 71% | | %00I | 100% | %L6 | | 100% | 31% | 100% | | %68 | %89 | %86 |
| | | | | | | | | | | | | | | | gb AAA88027.1 | | emb CAA12176.1 | | emb CAA51838.1 | | emb[CAA56072.1] | | gb[AAB69652.1] | | emb[CAA49188.1] | | gb AAC50499.1 |
| | | | | | | | | | | | | | | | envelope protein | [Homo sapiens] | (AJ224875) | glucosyltransferase [Homo sapiens] | signal recognition | particle subunit 14 [Homo sapiens] | hnRNPcore protein A1 | [Homo sapiens] | (AF009368) Luman | [Homo sapiens] | ribosomal protein L6 | [Homo sapiens] | ribosomal protein L29 |
| | | | | | | | | | | - | | | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 |
| | | | | | | | | | | | | | | | 1314 | | 1315 | | 1316 | | 1318 | | 1323 | | 1326 | | 1327 |
| | | | | | | | | | | | | | | | HNOJP42R | | HNOJQ22R | , | HNOKA20 | 8 | HNOKG34 | ~ | HNOK189R | | HNOKT24 | R | HNOKU52 |
| | | | | | | | | | | | | | | | HNOJP42 | | HNOJQ22 | | HNOKA20 | | HNOKG34 | | HNOKI89 | | HNOKT24 | | HNOKU52 |

| · | 488 | 289 494 363 | 186 | 496 | 394 | 355 | 357 582 386 | 144 | 319 485 | 615 | 641 |
|----------------|--|---------------------------------|---|----------------------|---|-----------------------|--|---|--|---------------------|----------------------------------|
| | 3 | 2 348 289 | 4 | 2 | 179 | 77 | 70 529 357 | 4 | 321 | 31 | £ . |
| | 100% | 93% 91% 96% | 95% | %06 | 93% | 83% | 89% 83% 90% | 91% | %86 %86 | 74% | %56 |
| | gb AAC31959.1 | gb[AAA88855.1] | gb AAA52678.1 | emb CAA57650.1 | gb AAA42074.1 | dbj BAA01980.1 | emb CAA20229.1 | gb AAF07341.1 AF1 96481_1 | dbj BAA03401.1 | emb CAA00898.1 | gb AAF03750.1 AF1 10731_1 |
| [Homo sapiens] | (AF081484) alpha- tubulin isoform 1 [Homo sapiens] | MHC class I A [Pan troglodytes] | high mobility group protein 17 [Homo sapiens] | hevin [Homo sapiens] | ribosomal protein L5 [Rattus norvegicus] | ORF [Pan troglodytes] | (AL031228) dJ1033B10.2 (WD40 protein BING4 (similar to S. 1 sapiens] | (AF196481) RING finger protein; FXY2 [Homo sapiens] | 'human homologue of rat ribosomal protein L9' [Homo sapiens] | TIMP [Homo sapiens] | (AF110731) antioxidant enzyme |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 1328 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 |
| R | HNOKV82 R | HNORA56 R | HNORB68 R | HNORC14 R | HNORD11 R | HNORE65 R | HNORF03R | HNORF04R | HNORF05R | HNORF13R | HNORH03 R |
| | HNOKV82 | HNORA56 | HNORB68 | HNORC14 | HNORD11 | HNORE65 | HNORF03 | HNORF04 | HNORF05 | HNORF13 | HNORH03 |

| | 498 | 350 | 496 | 909 | 497 | 497 | 558 | 555 | 423 | • | 395 | | 351 | 424 | 384 | 378 | 439 | 379 | 200 | 707 | | | | |
|---------------------|--|---------------|----------|-----|---------------|--------------------|----------|-----|---------------------|--------------------|------------------------|----------------|--------------------|----------------|-----------------------|------------------------|----------------|-------------------|---------|-------------------|-----------|-------------------|-----------------|----------|
| | 43 | 3 | 308 | 514 | 3 | n | 490 | 490 | 19 | | 3 | | 4 | 326 | 64 | 4 | 413 | 08 | 363 | 123 | | | | |
| | 100% | %06 | %06 | 38% | 100% | %59 | %98 | 20% | %68 | | 100% | | %86 | 36% | %19 | %86 | 100% | % <i>LL</i> | 64% | %26 | | | | |
| | gb AAA31492.1 | gb AAA88243.1 | | | gb AAC15862.1 | | | | gb AAA18502.1 | | gb AAA66064.1 | - - | gb AAA36022.1 | | gb AAA89070.1 | gb AAC18781.1 | | emb CAA50562.1 | | gb AAA52496.1 | | | | |
| B166 [Homo sapiens] | ubiquitin conjugating- protein [Oryctolagus cuniculus] | ATPase [Mus | musculus | • | (AF016365) | hexokinase I [Homo | sapiens] | | elongation factor 1 | alpha [Oryctolagus | sorbitol dehydrogenase | [Homo sapiens] | chaperonin (HSP60) | [Homo sapiens] | S19 ribosomal protein | ribosomal protein L18a | [Homo sapiens] | stathmin [Xenopus | laevis] | glyceraldehyde 3- | phosphate | dehydrogenase (EC | 1.2.1.12) [Homo | sapiens] |
| | blastx.2 | blastx.2 | | | blastx.2 | | | • | blastx.2 | | blastx.2 | | blastx.2 | , | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | | | |
| | 1340 | 1342 | | | 1344 | | | : | 1347 | | 1349 | | 1352 | | 1353 | 1354 | | 1355 | | 1356 | | | | |
| | HNORH05 R | HNORJ08R | | | HOCMA02 | RA | | | HOCMC08 | ጸ | HOCMF27 | × | HOCMG37 | R | HOCMI62R | HOCM147R | | HOCMK20 | | HOCML06 | R | | | - |
| | HNORH05 | HNORJ08 | | | HOCMA02 | | | | HOCMC08 | | HOCMF27 | | HOCMG37 | | HOCMI62 | HOCM147 | | HOCMK20 | | HOCML06 | | | | |

| 2 211 | 17 330 | 133 594 24 137 | 9 200 | 151 615 | 97 312 | 309 416 45 113 | 80 466 | 317 511 115 315 | 388 23 | | _ | 566 628 | | | 495 647 | 31 273 | 511 711 | 139 282 |
|--------------------|--------------------------------|--|----------------------------|---|-------------------|------------------------------|---|--------------------|--|------------------------|--------------|-------------------------|---------------------|-----------------------|---------------------|--------|------------|----------|
| 85% | 76% 2 | 98% 1. | %88 | 70% 1 | | 100% 3 43% . | %66 | 100% 3 100% 1 | 100% 3 | | | 99% | | | 47% 4 | | | 31% |
| | | | | | | | | | | | | | | | | | ·• · · · · | <u>.</u> |
| dbj BAA91374.1 | | emb CAA55935.1 | emb CAA92522.1 | gb AAA53505.1 | gb AAC25497.1 | | emb CAA54918.1 | emb CAA46716.1 | sp Q16465 YZA1_H UMAN | emb CAA68732.1 | | | gb AAC31808.1 | | | | | |
| (AK000779) unnamed | protein product [Homo sapiens] | glutathione transferase T1 [Homo sapiens] | plakoglobin [Homo sapiens] | insulin-like growth factor binding protein 5 [Homo sapiens] | (AF028832) Hsp89- | alpha-delta-N [Homo sapiens] | ribosomal protein S15a [Rattus norvegicus] | fau [Homo sapiens] | HYPOTHETICAL PROTEIN (FRAGMENT). | protein phosphatase 2A | (AA 1 - 309) | [Oryctolagus cuniculus] | (AF059486) putative | actin-binding protein | DOC6 [Mus musculus] | | | |
| blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | • | | blastx.2 | | | | | • |
| 1357 | | 1358 | 1360 | 1361 | 1363 | | 1364 | 1365 | 1366 | 1368 | • | | 1369 | | | | | |
| HOCML66 | R | HOCMM52 R | HOCMS75 R | HOCMS87 R | HOCMY53 | | HOCMY61 HOCMY61 | HOCMY79 HOCMY79 R | HOCOC38 R | | R | | HOCOF35R | | | | | |
| HOCML66 HOCML66 | | HOCMIM5 | HOCMS75 HOCMS75 | HOCMS87 | HOCMY53 | | HOCMY61 | HOCMY79 | носос38 | HOCOC94 | | | HOCOF35 | | | | | |

| 460 | | 632 | 561 | 969 | | | | | | 621 | | 620 | 474 | 541 | | 412 | | 351 | | 455 | | 217 | | 275 | 408 | | 365 | 39 |
|----------------|------------------------|----------------|-----|----------------------|-----------------------|-----------------|----------|----------------------|----------------|-----|-----|-----|-------------------|-----------------------|-------------|-----------------------|----------------|----------------|---------------|----------------|---------|------------------------|---------------------|------------------------|----------------|-----------------------|----------------------|------|
| | | 396 | 472 | 42 | | | | 2 | | 388 | 441 | 522 | 94 | 482 | | 8 | | | | 396 | | 7 | | 3 | 286 | | 225 | 4 |
| 72% | 46% | 25% | 43% | %LL | | | | %19 | 34% | 39% | 30% | 42% | 94% | 75% | | %16 | | %96 | 72% | 20% | | 100% | | %96 | 48% | %9 <i>L</i> | 26% | 100% |
| gb AAA36111.1 | | | | gb AAA36582.1 | | | | gb AAA60300.1 | | | - | | pir S70029 S70029 | | | gb AAA60284.1 | | emb CAA04940.1 | | | | emb[CAA31412.1] | | gb AAB54057.1 | - 1 | emb CAA67576.1 | | |
| 'FKBP52; 52 kD | FK506 binding protein' | [Homo sapiens] | | Ro ribonucleoprotein | autoantigen (Ro/SS-A) | precursor [Homo | sapiens] | spliceosomal protein | [Homo sapiens] | | | | probable | transmembrane protein | TMC - human | ribosomal protein S17 | [Homo sapiens] | (AJ001701) | deoxyhypusine | synthase [Homo | sapiens | 3-oxoacyl-CoA thiolase | propeptide (424 AA) | antisecretory factor-1 | [Homo sapiens] | collagen (VI) alpha-1 | chain [Homo sapiens] | |
| blastx.2 | | | | blastx.2 | | | | blastx.2 | | | | | blastx.2 | | | blastx.2 | | blastx.2 | | | | blastx.2 | | blastx.2 | , | blastx.2 | | |
| 1370 | | | | 1371 | | | | 1372 | | | | | 1373 | | | 1375 | | 1377 | | | | 1380 | | 1381 | | 1383 | | |
| HOCOF50R | | | | HOCO062 | R | | | HOCOP52R | | | | | HOCOQ13 | 2 | | HOCOT70 | R | HOCPF69R | | | | HOCPH40R | | HOCPH44R | | HOCPIS3R | | • |
| HOCOF50 | | | | HOCO062 | | | | HOCOP52 | | | | | HOCOQ13 | | | HOCOT70 | | HOCPF69 | | | | НОСРН40 | | НОСРН44 | | HOCPI53 | | |

| 136 | 314 | 563 | 394 52 | 427 | 646 | 536 37 | 579 | 977 ° | 268 | 249 | 203 | 456 512 |
|--------------------|-------------------------------|--|---|--|---------------------|---|------------------------|-----------------------|----------------------------|--|-------------------------------------|--|
| 23 | 63 350 | E. | 38 | 2 | 78 | 39 | - | 603 | 98 | → · | 3 | 441 |
| %98 | %ES %S8 | %88 | 84% 100% | 100% | %98 | 100% | %96 | 48% | 77% | . 92% | 100% | 65% 54% |
| gb AAB48302.1 | emb CAA32094.1 | gb AAA80153.1 | gb AAB65243.1 | gb AAA40742.1 | emb CAA00898.1 | emb CAA27137.1 | emb CAA56074.1 | | gb AAA74903.1 | dbj BAA11479.1 | dbj BAA75239.1 | gb AAA41088.1 |
| pinin [Bos taurus] | histone H2A.F [Gallus gallus] | isoleucyl-tRNA synthetase [Homo sapiens] | (AF006012) dishevelled 2 [Homo sapiens] | clathrin-associated protein 17 [Rattus norvegicus] | TIMP [Homo sapiens] | alpha subunit (aa 1- 394) [Bos taurus] | translation initiation | factor [Homo sapiens] | P311 HUM [Homo sanjens] | similar to emb-5 protein of C.elegans. | (AB017018) JKTBP2 [Homo sapiens] | dihydropyridine- sesitive L-type calcium channel alpha-2 subunit |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 1385 | 1386 | 1387 | 1389 | 1390 | 1391 | 1392 | 1393 | | 1395 | 1397 | 1399 | 1400 |
| HOCPM39 R | HOCPP65R | HOCPP80R | НОСРQ59R | HOCPQ66R | HOCPQ75R | HOCPR01R | HOCPR29R | | HOCPR53R | HOCPR77R | HOCPS35R | HOCPU03R |
| HOCPM39 HOCPM39 | НОСРР65 | носрр80 | носро59 | НОСРQ66 | HOCPQ75 | HOCPR01 | HOCPR29 | | HOCPR53 | HOCPR77 | HOCPS35 | HOCPU03 |

| | | | | [Rattus norvegicus] | | | | |
|---------|--------------|------|----------|--------------------------------|-------------------|------|-----|-----|
| HOCPU30 | HOCPU30R | 1401 | blastx.2 | KDEL receptor [Homo | emb[CAA39371.1] | %99 | 342 | 518 |
| | | | | sapiens] | | %69 | 139 | 267 |
| | | | | | | 61% | 242 | 334 |
| HOCPU68 | HOCPU68R | 1402 | blastx.2 | preprocathepsin B | gb AAA52129.1 | %86 | 3 | 269 |
| HOCPV29 | HOCPV29R | 1403 | blastx.2 | thrombin inhibitor | emb CAA80373.1 | %85 | 243 | 593 |
| HOCPV67 | HOCPV67R | 1404 | blastx.2 | serine/threonine-protein | gb AAB03269.1 | %88 | 58 | 327 |
| | | | | kinase PRP4m [Mus musculus] | | 87% | 345 | 518 |
| HOCPV72 | HOCPV72R | 1405 | blastx.2 | (AF132952) CGI-18 | gb AAD27727.1 AF1 | %16 | 33 | 203 |
| | | | | protein [Homo sapiens] | 32952_1 | 84% | 184 | 318 |
| HOCPW56 | HOCPW56 R | 1406 | blastx.2 | ARL3 [Homo sapiens] | gb AAA21654.1 | 100% | 2 | 502 |
| HOCPW81 | HOCPW81 | 1408 | blastx.2 | cysteine protease Mch2 | gb AAC50168.1 | 91% | 2 | 739 |
| | ద. | | | isoform alpha [Homo sapiens] | , | | | |
| HOCPX01 | HOCPX01R | 1409 | blastx.2 | (AF052514) thymus | gb AAC33563.1 | 73% | 129 | 440 |
| | | | | specific serine | | 20% | 113 | 571 |
| | | | | peptidase [Homo | | 87% | 999 | 289 |
| | | | | sapiens] | | 28% | 483 | 587 |
| HOCPZ76 | HOCPZ76R | 1411 | blastx.2 | (AF002705) beta prime | gb AAB88018.1 | %66 | 2 | 421 |
| | | | | COP [Rattus norvegicus] | | 17% | 423 | 524 |
| HOCQA26 | HOCQA26 | 1413 | blastx.2 | interferon-inducible | emb CAA59337.1 | 100% | 205 | 378 |
| | | | | protein [Homo sapiens] | | 71% | 410 | 571 |
| | | | | : | | 47% | 360 | 473 |
| HOCQA37 | HOCQA37 | 1414 | blastx.2 | lactoyl glutathione | dbj BAA02572.1 | 100% | 136 | 276 |
| | | - | | | | | | |

| 131 | 392 | 473 | 555 | | | 419 | | 637 | | 392 | 267 | | 294 | 475 | 614 | 599 | | 463 | 785 | 492 | | | 437 | | |
|----------------------|---|--|-----------------|-------------------------|---------------------------------|-------------------------|----------------|-----------------------|----------------|---------------------|---------------|-------------|----------------|-----------------------|-------------------|--------------------|----------------|-------------------|-----------|-------------------|----------------------|------------------------|-----------------------|---------------------|---------|
| .63 | 84 | 3 | 4 | | | 126 | | 152 | | 3 | 424 | | 1 | 299 | 474 | 474 | • | . 92 | 495 | 457 | | | 9 | | |
| . 85% | 91% | %66 | %26 | | | %86 | | %88 | | %08 | 26% | | %98 | %59 | 26% | 23% | | %16 | 54% | 100% | | , | 74% | | |
| | gb AAB00774.1 | emb CAA37375.1 | dbj BAA11541.1 | | | dbj BAA23325.1 | | gb AAA36157.1 | | gb AAA42093.1 | | | gb[AAD03717.1] | | | | | pir JC5370 JC5370 | | | | | gb AAA60282.1 | | |
| lyase [Homo sapiens] | proteoglycan core protein [Homo sapiens] | general transcription factor [Homo sapiens] | Na+-independent | neutral and basic amino | acid transporter [Homo sapiens] | calcium binding protein | [Homo sapiens] | ribosomal protein L12 | [Homo sapiens] | retinoid X receptor | alpha [Rattus | norvegicus] | (AF095257) | heterogeneous nuclear | ribonucleoprotein | C1/C2; hnRNP C1/C2 | [Mus musculus] | glyceraldehyde-3- | phosphate | dehydrogenase (EC | 1.2.1.12), euthermic | tissue - desert jerboa | ribosomal protein L7a | large subunit [Homo | sapiens |
| | blastx.2 | blastx.2 | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | | | | blastx.2 | | | | | blastx.2 | , | , |
| | 1415 | 1416 | 1417 | | | 1419 | | 1420 | | 1421 | | | 1423 | | | | | 1424 | | | | | 1425 | | |
| R | HOCQA86 R | HOCQB18 | | × | | носос71 | R | носорто носорто | R | носор19 | R | | HOCQD42 | | | | | носор45 | x | | | | носоез носоезя | X | |
| | НОСОА86 | носов18 | НОСОВ48 | | | НОСОС71 | | носор10 | | носор19 | , | | носор42 | | | | | HOCQD45 | | | | | HOCQE35 | | |

| 629 | 652 | 242 | 324 | 230 | 274 | | 133 | 233 | 17. | 16/ | 304 | . 158 | 170 | 164 | 164 | 176 | 164 | 146 | 168 | 161 | 91 |
|-----------------------|-----|--|--|-------------------------------------|--------------------|---|-----------------|-------------------|---|--------------------|-------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6 | 254 | 144 | 1 | 3 | ∞ | | 56 | 216 | † | ٠, | 164 | 12 | 12 | 45 | 39 | 30 | 24 | 36 | 13 | 81 | 53 |
| 62% | 28% | %16 | 100% | 100% | 25% | | %99 | 100% | ,6,0 | %96 | | 36% | 33% | 35% | 30% | 25% | 30% | 27% | 792 | 37% | 46% |
| emb CAB06627.1 | | gb AAC39866.1 | gb AAB32370.1 | emb CAA56072.1 | gb AAC23784.1 | | emb CAA01433.1 | | 11 4 4 100000 41 | gb AAF00095.1 | | | | | | | | | | | |
| actin [Brugia malayi] | | (AF038952) cofactor A protein [Homo sapiens] | prostacyclin- stimulating factor, PGI2-stimulating | hnRNPcore protein A1 [Homo sapiens] | (AC004638) amyloid | precursor protein- binding protein 1 (APP-B1) [Homo sapiens] | tissue-specific | secretory protein | Symmetic Course act | (AF113514) histone | acetyltransferase | MORF [Homo sapiens] | | | | | | | | | |
| blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | | | blastx.2 | | | | | | | | • | | | |
| 1426 | | 1427 | 1428 | 1430 | 1431 | | 1434 | | 1000 | 1435 | | | | | | | | | | | |
| НОСОС94 | R | HOCQH81 R | HOCQ131R | HOCQM24 R | HODAF78 | <u>.</u> ع | HODCZ52 | ~ | , | HODDI57R | | | | | | | | | | | |
| HOCQG94 HOCQG94 | , | носон81 | НОСQІ31 | HOCQM24 HOCQM24 | HODAF78 | | HODCZ52 | | _ | HODDIS7 | | | | | | | | | | | |

| 101 | 289 | 207 | 181 | 409 | 153 | 153 | 153 | 153 | 153 | 153 | 153 | 153 | 156 | 153 | 153 | 153 | 153 | 233 | 239 | 239 | . 233 | 239 |
|-----|--|--|--|--|---------------------|--------------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| 9 | 83 | 1 | 2 | 305 | 16 | - | | | | 16 | - | | | | | 7 | 10 | 150 | 156 | 174 | 174 | 153 |
| 34% | %99 | %86 | 100% | 100% | 78% | %02 | 70% | 64% | %99 | 71% | 28% | 28% | %09 | 28% | 28% | 28% | 54% | 75% | %19 | 77% | %06 | %29 |
| | gb AAA91179.1 | gb AAF25683.1 AF2 16754_1 | emb CAA70103.1 | gb AAA87567.1 | gb AAC50261.1 | | | | | | | | | | | | | | | | | |
| | Method: conceptual translation supplied by author [Homo sapiens] | (AF216754) over- expressed breast tumor protein [Homo sapiens] | Ran_GTP binding protein 5 [Homo sapiens] | selenium donor protein [Homo sapiens] | zinc finger protein | ZNF136 [Homo | sapiens | | | | | | | · | | | | | | | | |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | | | | | | | , | | | | | | | | |
| | 1440 | 1449 | 1453 | 1459 | 1460 | | | | | | | | | •• | | | | | | | | |
| | HODER57 R | HODFC44R P00 | HODFJ14R | HODFO16 R | HODFO64 | R | | | | | | | | | | | | | | | | |
| | HODER57 | HODFC44 | HODFJ14 | HODFO16 | HODFO64 HODFO64 | | | | | | | | | | | | | | | | | |

| 329 | 242 | 233 | 236 | 153 | 328 | 328 | 319 | 233 | 337 | 319 | 319 | 314 | 314 | 328 | 319 | 325 | 319 | 325 | 439 | 436 | 453 | 499 | 16 | 493 | | 470 | 129 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|-----------------------|--------------------------------------|---------------|------------------------|-----------|--------------------|-----------------|------------------|
| 159 | 153 | 174 | 153 | 49 | 242 | 569 | 239 | 174 | 242 | 272 | 248 | 159 | 174 | 242 | 251 | 239 | 248 | 239 | 74 | 104 | 7 | . 47 | 2 | 338 | | 3 | 31 |
| 45% | 63% | %08 | %09 | 24% | 21% | 70% | 25% | %09 | 43% | %18 | 24% | 32% | 34% | 48% | 25% | 41% | 41% | 37% | <i>%LL</i> | 44% | %68 | %76 | 93% | 25% | | %68 | %06 |
| | | | | | | | | | | | | | | | | | | | gb[AAA36648.1] | | gb[AAB03694.1 | gb AAB32776.1 | | | | gb[AAB58952.1] | sp Q9Y6Y5 Q9Y6Y5 |
| | | | | | | | | | | | | | | | | • | | | pre-mRNA splicing | factor [Homo sapiens] | DNA topoisomerase III [Homo sapiens] | pancreatic | peptidylglycine alpha- | amidating | monooxygenase, 1 1 | protein 4 [Homo | IDN4-GGTR14 |
| | | | | | | | | | | | | | | | | | | | blastx.2 | | blastx.2 | blastx.2 | | | | blastx.2 | blastx.2 |
| | | | | | | | | | | | _ | | | | | | | | 1461 | | 1462 | 1463 | | _ | | 1475 | 1478 |
| | | | | | | | | | | | | , | | | | | | | HODFP51R | | HODFQ19 R | HODFQ37 | 8 | | | HODGB69 | НОДСНЗО |
| | | | | | | | | | | | 77 | | | | | | | | HODFP51 | | норғ019 | HODFQ37 | | | | норсв69 | НОДСН30 |

| | R | | | PROTEIN. | | | | ! |
|--------------|--------------|------|----------|--------------------------------|-------------------|-------|-----|----------|
| HODGH43 | HODGH43 | 1479 | blastx.2 | (AB005878) BYJ15 | dbj BAA21615.1 | 100% | 717 | 116 |
| НОДСН65 | HODGH65 R | 1480 | blastx.2 | IDN4-GGTR14 | sp Q9Y6Y5 Q9Y6Y5 | %96 | 41 | 127 |
| HODGN53 | HODGN53 | 1482 | blastx.2 | (AF186461) ring finger | gb AAD56247.1 AF1 | 39% | 95 | 475 |
| | R | | | protein Fxy [Rattus | 86461_1 |) | | |
| HODGOS2 | HODGOS2 | 1487 | hlastx 2 | moregicus | emblCAB42187 11 | %2% | - | 84 |
| 3 | R | 2 | | product [unidentified] | | 25% | 118 | 189 |
| HODGW9 | HODGW91 | 1489 | blastx.2 | phosphofructokinase | gb AAA79220.1 | 100% | 101 | 3 |
| | 24 | | | [Homo sapiens] | | 93% | 394 | 347 |
| HODGZ63 | HODGZ63 | 1493 | blastx.2 | putative | gb AAA28195.1 | 46% | 190 | 462 |
| | x | | | [Caenorhabditis elegans] | | 21% | 470 | 532 |
| норнр23 | норнр23 | 1495 | blastx.2 | fused-ccdB | emb CAA71575.1 | 95% | 24 | 104 |
| | R | | | [Escherichia coli] | | | | |
| HODHES4 | HODHE54 | 1498 | blastx.2 | lysyl oxidase-like | gb AAA50162.1 | 100% | 24 | 323 |
| | 8 | | | protein [Homo sapiens] | | %96 | 323 | 418 |
| • | | | | | | 32% | 94 | 348 |
| НООНЕ88 | 88ЭНДОН | 1499 | blastx.2 | (AK001737) unnamed | dbj BAA91871.1 | 83% | 29 | 196 |
| | 24 | | | protein product [Homo sapiens] | | | | |
| норнез6 | норнс56 | 1500 | blastx.2 | (AF151888) CGI-130 | gb AAD34125.1 AF1 | 100% | 121 | 231 |
| | R | | | protein [Homo sapiens] | 51888_1 | | | |
| НОДНК86 | НОДНК86 | 1503 | blastx.2 | (AB005299) BAI 3 | dbj BAA25363.1 | 93% | 2 | 289 |
| | 꿈 | | | [Homo sapiens] | | %88 | 413 | 268 |
| | | | | • | | 48% | 207 | 590 |
| HODJL36 | HODJL36R | 1505 | blastx.2 | (AL031177) | emb CAA20118.1 | 40% | 254 | 436 |
| | | | | | | | | |

| 118 | | 558 | 338 | 473 | 333 | | 424 | 286 | 391 | 507 | 464 | 624 | | 344 | 651 | 682 | 538 | | · • · | | 424 | | 489 | 512 | |
|-------------------|-----------------------------------|---------------------------------|-------------------------|---------------------|-----------------|--|------------------|----------|-----|------|-----|----------------------|--------------|------------------|---------------------|----------------|----------------|----------------------|---------------------|----------------|-------------------|----------------|-------------------|------------------|---------|
| 56 | | 64 | 3 | 348 | 503 | | 65 | 41 | 38 | 463 | 417 | 1 | | m | 331 | 416 | 5 | | | | 116 | | 16 | 450 | |
| 32% | | %86 | %96 | 28% | %99 | | %66 | 45% | 34% | 100% | 75% | %66 | | %96 | 71% | 28% | %9/ | | | | 28% | | %08 | 47% | |
| | | emb CAA66039.1 | emb CAB06294.1 | | emb CAB51405.1 | | dbj BAA08302.1 | | | | • | gb AAA60289.1 | | gb AAA36470.1 | | | emb CAA45089.1 | | | | gb AAF32294.1 AF2 | 16306_1 | gb AAD22669.1 AC0 | 07193_3 | |
| dJ889N15.2.2 (26S | Proteasome subunit p28 (Ankyrin 1 | prepronociceptin [Homo sapiens] | serine/threonine kinase | [Rattus norvegicus] | (AL096881) | hypothetical protein [Homo sapiens] | calmodulin [Homo | sapiens] | 1 | | | ribosomal protein S6 | Homo sapiens | acidic ribosomal | phosphoprotein (P0) | [Homo sapiens] | homologue to | elongation factor 1- | gamma from A.salina | [Homo sapiens] | (AF216306) DCRC-1 | [Mus musculus] | (AC007193) | PPP5_HUMAN [Homo | sapiens |
| | | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | | | | blastx.2 | | blastx.2 | | | blastx.2 | | | | blastx.2 | | blastx.2 | | |
| | | 1506 | 1508 | | 1514 | | 1519 | | | | | 1520 | | 1521 | | | 1526 | | | | 1527 | | 1528 | | |
| . Y | | HODJZ09R | HODKB82 | R | HODKD64 HODKD64 | R | HODKK26 | 8 | | | | НОДКК40 НОДКК40 | R | HODKK73 | 8 | | HODKN65 | | | | HOECR39R | | HOFAB77R | | |
| | | HODJZ09 | HODKB82 | | HODKD64 | | HODKK26 | | | | | HODKK40 | | HODKK73 HODKK73 | | | HODKN65 | | | ř | HOECR39 | | HOFAB77 | | |

| 339 | 430 | 370 | 252 | 299 327 | 360 422 | 547 581 | 264 122 316 | 432 | 478 | 370 |
|---------------------|-------------|--|--|---|--|-------------------------------------|--|--|--------------------------------------|-----------------|
| ε | 4 | 6 | 2 2 | 3.2 | 8 4 | 5 | 3 | 4 | 4 | 3 |
| 4 | 305 | 17 | 254 | 36 | 369 | 137 264 | 127 27 98 | 124 | 26 | 17 |
| %08 | 38% | 76% | 72% 85% | 61% 84% | 77% 83% | 52% 40% | 80% 75% 39% | 63% | %0 <i>L</i> | 94% |
| gb AAD04775.1 | | gb AAA61139.1 | pir A43533 A43533 | gb AAD33046.1 AF1 33669_1 | dbj BAA01387.1 | gb AAC24730.1 | sp P52272 ROM_HU MAN | dbj BAA89426.1 | gb AAC51368.1 | dbj BAA24363.1 |
| cytochrome b [Canis | familiaris] | receptor protein- tyrosine kinase [Homo | hydroxymethylglutaryl- CoA reductase (NADPH) (EC 1.1.1.34) - mouse (fragments) | (AF133669) ARL-6 interacting protein-1 [Mus musculus] | mitochondrial acetoacetyl-CoA thiolase [Homo sapiens] | RNAse L inhibitor [Mus musculus] | HETEROGENEOUS NUCLEAR RIBONUCLEOPROTE IN M (HNRNP M). | (AP000694) chromatin assembly factor 1, subunit B (p60) [Homo sapiens] | phopshomannomutase [Homo sapiens] | (AB002806) OS-9 |
| blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 1530 | | 1531 | 1533 | 1534 | 1535 | 1536 | 1537 | 1538 | 1540 | 1541 |
| HOFMF79 | RA | HOFMJ88R | HOFMM84 R | HOFMN93 R | HOFMP59 R | HOFMT68 R | HOFMT69 R | HOFMU92 R | HOFNF63R | HOFNF76R |
| HOFMF79 | | HOFMJ88 | HOFMM8 4 | HOFMN93 | HOFMP59 | HOFMT68 | HOFMT69 | HOFMU92 HOFMU92 R | HOFNF63 | HOFNF76 |

| | 414 | 186 | 232 | 009 | 397 | 345 | 242 460 270 | 219 219 115 350 |
|--|---|---------------------------------------|---|--|--|--------------------------------------|---|--|
| | 157 | 19 | 17 | 16 | 08 | <u>22</u> | 18 245 244 | 115 109 35 204 |
| | %6 <i>L</i> | %96 | %16 | 74% | 84% | %86 | 98% 62% 100% | 85% 57% 64% 36% |
| | dbj BAA21881.1 | gb AAA30678.1 | emb CAB52550.1 | gb AAA60055.1 | sp Q29386 Q29386 | gb AAB02696.1 | gb AAD17375.1 | gb AAA39906.1 |
| isoform 2 is missing nt 1642-1806; OS-9 1 | (AB006679) ATP binding protein [Homo sapiens] | osteonectin precursor [Bos taurus] | (AL034417) bK215D11.1 (RNA-binding protein regulatory subunit) [Homo sapiens] | pyruvate dehydrogenase E1- alpha precursor [Homo sapiens] | KERATIN TYPE II CYTOSKELETAL 8 (FRAGMENT). | activin receptor type I [Bos taurus] | (AF129075) T- COMPLEX PROTEIN 1, THETA SUBUNIT (TCP-1-THETA) [Homo sapiens] | protein disulfide isomerase [Mus musculus] |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 1542 | 1543 | 1544 | 1545 | 1546 | 1547 | 1548 | 1549 |
| | HOFNG51 R | HOFNK44 R | HOFNY53 R | HOFOB65R | HOFOB79R P00A | HOFOE22R | HOFOF47R | HOFOF56R |
| | HOFNG51 | HOFNK44 | HOFNY53 | HOFOB65 | HOFOB79 | HOFOE22 | HOFOF47 | HOFOF56 |

| 2 | 2 | 0 | 7 | 0 | 0 | 7 | 3 | 6 | 7 | | _ | | 6 | 3 | | | 5 | 4+ | | ٦ | _ | | 6 | 7 | 9 | 0 | ٦ |
|-----|------------------------|------------------------|-------------------|----------|------------------------|----------|-----|---------------|--------------------|----------|-------------------|---------------------|----------------------|-----------------------|----------------|-------------------------|----------------|---------------------|--------------------|----------|---------------------|-------------------------------|---------------------|---------|-----|----------------------|-----------------------|
| 352 | 265 | 240 | 587 | 570 | 310 | 482 | 113 | 179 | 337 | | 471 | | 459 | 183 | | 521 | 535 | 504 | | | 340 | 547 | 32 | 517 | 326 | 260 | |
| 263 | 245 | 9/ | 414 | 523 | 20 | 309 | 21 | 3 | 173 | | 103 | | 13 | 31 | | 3 | 398 | 43 | | 6 | × | 302 | 3 | 332 | 150 | 3 | |
| 40% | . 63% | %96 | %19 | 75% | %6 <i>L</i> | 81% | 29% | %86 | 83% | | %46 | | %56 | %001 | | %91 | 73% | %6 <i>L</i> | | ì | %/6 | 41% | 94% | %02 | 30% | 100% | |
| | dbj BAA06043.1 | | | | emb CAA31695.1 | | | gb AAA85332.1 | | | gb AAC01579.1 | | gb AAC15861.1 | gb AAC41760.1 | | gb AAA58636.1 | | gb AAA18502.1 | | | gb AAA18502.1 | - | dbj BAA00013.1 | | | emb CAA68724.1 | |
| | hepatitis C-associated | microtubular aggregate | protein p44 [Homo | sapiens] | keratin [Homo sapiens] | | | complement | component C3 [Homo | sapiens] | (AF032667) rexo70 | [Rattus norvegicus] | Grb14 [Homo sapiens] | casein kinase I-alpha | [Homo sapiens] | heparin binding protein | [Homo sapiens] | elongation factor 1 | alpha [Oryctolagus | cumental | elongation factor 1 | alpha [Oryctolagus cuniculus] | lipocortin II [Homo | sapiens | | extracellular matrix | protein BM-40 (AA I - |
| | blastx.2 | | | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | | blastx.2 | |
| | 1553 | | | | 1554 | | | 1556 | | | 1557 | | 1559 | 1562 | | 1563 | | 1564 | | | 1565 | | 1566 | | | 1567 | |
| | HOGCF48R | | | | HOGCG83 | R | | HOGCI28R | | | HOGCJ10R | | HOGCJSSR | HOGCT44 | R | HOGCV85 | R | HOGCV93 | ~ | | HOGCY12 | & | HOGCY58 | × | | | 木 |
| | HOGCF48 | | | | HOGCG83 | | | HOGCI28 | | | HOGCJ10 | | HOGCJSS | HOGCT44 | | HOGCV85 | | HOGCV93 | | | HOGCY12 | | HOGCY58 | | | HOGCY74 | |

| | 3 152 | 1 388 3 491 | 5 192 | 2 163 | 6 373 | 3 287 | 0 435 7 378 0 461 3 493 | 2 578 | 4 414 | 2 160 |
|---------------------|------------------------------|-------------------------------|---|---|---|------------------------|---------------------------------------|--|--|---------------------|
| | | 191 393 | 55 | | 98 | | 70 157 390 413 | 102 | , | |
| | %88 | 95% 87% | 100% | 100% | %59 | %68 | 90% 32% 62% 48% | 83% | %86 | 81% |
| | gb AAA16256.1 | dbj BAA14419.1 | emb CAA58127.1 | emb CAA68030.1 | gb AAA36470.1 | emb CAA73943.1 | gb[AAC50893.1 | emb CAA52808.1 | gb AAA52496.1 | gb[AAA35763.1] |
| 303) [Homo sapiens] | drebrin E2 [Homo sapiens] | l-caldesmon II [Homo sapiens] | neutrophil gelatinase associated lipocalin [Homo sapiens] | XIAP associated factor-1 (ZAP-1) [Homo sapiens] | acidic ribosomal phosphoprotein (P0) [Homo sapiens] | keratin [Homo sapiens] | FUSE binding protein 3 [Homo sapiens] | gamma subunit of CCT chaperonin [Homo sapiens] | glyceraldehyde 3- phosphate dehydrogenase (EC 1.2.1.12) [Homo sapiens] | cytokeratin 8 [Homo |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 1568 | 1570 | 1572 | 1574 | 1575 | 1576 | 1578 | 1579 | 1580 | 1581 |
| | HOGDD29 R | HOGDG03 R | HOGDI44R | HOGDO25 R | HOGDO58 R | HOGDP10 R | НОGDQ95 R | HOGDR70 R | HOGDV93 R | HOGEA27 |
| | НОСБББ | HOGDG03 | HOGDI44 | HOGD025 | HOGDO58 | HOGDP10 | носроэ | HOGDR70 | HOGDV93 | HOGEA27 |

| | 482 | 445 | 173 | 316 | | 322 | | 205 | 260 | | 367 | | 414 | | 144 | 53. | 543 | | | 156 | | 423 | | 399 | | 458 | 505 | 188 |
|----------|---------------------|------------------------|-----|--------------------|----------------|-----------------------|----------------------|----------------------|--------------|-----------------------|-------------------|---------|-----------------------|--------------|-----------------------|-----|-------------------|------------------------|-------------------------|----------------------|-------------------------|------------------------|-----------------------|----------------------|----------------------|------------------------|--|-------------------------|
| | 3 | 305 | 9 | 38 | | 140 | | 83 | 219 | | 155 | | 4 | | 52 | 18 | 373 | | | 1 | | 292 | - | 85 | | 336 | 464 | 3 |
| | %SL | %58 | 25% | %16 | | 83% | | %SL | 78% | | %19 | | %96 | | 87% | 83% | %76 | | | 82% | | 63% | | 100% | | 73% | 78% | %56 |
| | gb[AAD03778.1] | | | emb CAA43874.1 | | emb CAA01027.1 | | gb AAC33436.1 | | | gb AAA64895.1 | | gb AAA35819.1 | , | emb CAA65450.1 | | gb[AAB00807.1] | | | gb[AAB65437.1] | | gb AAA72865.1 | | dbj BAA19210.1 | | gb AAA72865.1 | THE PARTY OF THE P | gb AAA36761.1 |
| sapiens] | AP-3 complex beta3A | subunit [Homo sapiens] | | HLA-Aw34.2 antigen | [Homo sapiens] | regulatory subunit RI | alpha [Homo sapiens] | (AF056182) G-protein | beta subunit | [Emericella nidulans] | Plakoglobin [Homo | sapiens | focal adhesion kinase | Homo sapiens | kinase [Homo sapiens] | | ZZ:beta-Gal' IgG- | binding fusion protein | [unidentified cloning 1 | (AF013215) ribosomal | protein S2 [Bos taurus] | pfxblue fusion protein | [synthetic construct] | (AB000910) ribosomal | protein [Sus scrofa] | pfxblue fusion protein | [synthetic construct] | steroid receptor TR2-11 |
| | blastx.2 | _ | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 |
| | 1582 | | | 1583 | | 1584 | | 1587 | | | 1588 | | 1590 | | 1592 | | 1091 | | | 1602 | | 1603 | | 1604 | | 1605 | | 1608 |
| R | HOGED85 | 8 | | HOGEK25 | R | HOGEN30 | R | HOGEP69R | | • | HOGET60R | | HOGEW58 | R | HOGEZ03R | | ноонге8 | 8 | | HOOHP84 | R | 60ОНООН | ጸ | нооно83 | R | HOOHR81 | R | HOOHT13 |
| | HOGED85 | | | HOGEK25 | | HOGEN30 | | HOGEP69 | | | HOGET60 | | HOGEW58 | | HOGEZ03 | | HOOHL68 | · | | HOOHP84 | | 60ОНООН | , | нооно83 | | HOOHR81 | | HOOHT13 |

| | | | [Homo sapiens] | | %56 | 193 | 264 |
|--------------|------|----------|---|-----------------|--------------------------|-------------------------|--------------------------|
| HOOIA46R | 1610 | blastx.2 | cpn10 protein [Bos taurus] | emb CAA49288.1 | 100% | 3 | 239 |
| HOOIB54R | 1613 | blastx.2 | ribosomal protein L23a [Homo sapiens] | gb AAB17510.1 | 75% | 68 | 199 |
| HOOIG71R | 1615 | blastx.2 | ribosomal protein L27 [Homo sapiens] | gb AAA19815.1 | %86 | 7 | 250 |
| HOOJN84R | 1624 | blastx.2 | IEF 7442 [Homo sapiens] | emb CAA51360.1 | 100% | 4 | 189 |
| HOOJT32R | 1629 | blastx.2 | ribosomal protein L23a [Homo sapiens] | gb AAA03341.1 | %9 <i>L</i> | 34 | 237 |
| HOOJT65R | 1630 | blastx.2 | (AJ388520) Ribosomal protein [Canis familiaris] | emb CAB46822.1 | %88 | 43 | 123 |
| HOOJY44R | 1636 | blastx.2 | human homologue of rat phosphatidylethanolami ne binding protein [Homo sapiens] | dbj BAA03684.1 | 100% | <i>C</i> 1 | 1.84 |
| HOOJY80R | 1637 | blastx.2 | cytochrome b5 [Homo sapiens] | gb AAA35729.1 | %86 | 61 | 462 |
| HOOJY92R | 1638 | blastx.2 | mitochondrial matrix protein [Homo sapiens] | gb AAA60127.1 | 98% 91% 66% 62% | 48 403 513 341 | 344 513 686 445 |
| HOOKN43 R | 1640 | blastx.2 | ZZ:beta-Gal' IgG- binding fusion protein funidentified cloning 1 | gb AAB00807.1 | 63% | 124 | 399 |
| HOPJF95R | 1643 | blastx.2 | nucleolar protein p40 | [gb[AAB46731.1] | %16 | 209 | 511 |

| ī | | : | [Homo sapiens] | | %06 | 130 | 219 |
|-----------------|-------|----------|--------------------------------------|------------------------------|-------------|-----|-----|
| 1644 bi | Ď | blastx.2 | (AF161386) HSPC268 [Homo sapiens] | gb AAF28946.1 AF1 61386 1 | 85% 100% | 237 | 461 |
| 1646 bl | 19 | blastx.2 | prosomal P27K protein | emb CAA42052.1 | %26 | 3 | 551 |
| | | , | [Homo sapiens] | | 21% | 535 | 594 |
| 1650 bla | ρľ | blastx.2 | C gamma 3 [Homo | emb CAA27268.1 | 46% | 42 | 476 |
| · | | | sapiens | | 44% | 182 | 460 |
| - | | | | | 34% | 172 | 543 |
| | | | | | 100% | 2 | 49 |
| 1656 bla | bla | blastx.2 | homeotic protein | pir A42008 A42008 | %56 | 2 | 655 |
| | | • | HOX4E - human | | | | |
| 1659 bla | bla | blastx.2 | scar protein [Homo | gb AAA36597.1 | %86 | 1 | 432 |
| | | | sapiens | | | | |
| 1660 blastx.2 | blas | tx.2 | (AL050318) dJ977B1.5 | emb CAB75369.1 | %86 | 46 | 519 |
| | | | (myosin regulatory | | 83% | 525 | 260 |
| | | | light chain 2, smooth | | | | - |
| | | | muscle isoform) [Homo | , | | | |
| -+ | | | sapiens | | | | |
| 1661 blastx.2 | blast | x.2 | elongation factor-1- | emb CAA43019.1 | %66 | 34 | 594 |
| | | | beta [Homo sapiens] | | 20% | 584 | 709 |
| | | | | | 84% | 615 | 653 |
| 1662 blastx.2 | blas | tx.2 | (AF077539) contains | gb AAC26291.1 | 34% | 09 | 380 |
| | | | similarity to human | | 61% | 379 | 417 |
| | | | melanoma antigen p15 | | | | |
| | | | (GB: U19796) | | | | |
| | | | [Caenorhabditis | | | | |
| | | | elegans] | | | | |
| 1663 bla | bla | blastx.2 | aldolase A (EC | gb AAA51690.1 | 100% | 7 | 460 |
| | | | 4.1.3.13) [Homo | | , . | | |
| | | | Saprens | | | | |

| 483 | 81 | 405 | 527 | 285 | 601 435 | 435 | 498 | - | 5 | 1/3 | | 514 | 155 | 155 | 155 | 170 | 152 | 203 | 155 | 155 | 152 |
|--|--|---------------------|------------------|------------------------|--------------------|-----------------------|----------------------|------------------|--------|----------------------------------|---------|---|----------------|----------------------|--------------|-----|-----|-----|-----|-----|-----|
| 31 | 1 | 4 | 285 | 154 | 385 | 115 | 28 | • | \ | 0 | | 5 | 12 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 94% | %96 | %9L | %06 | %06 | 41% | 82% | %68 | | ,000, | %001 | | %98 | %58 | %08 | 75% | %02 | 79% | %09 | 73% | %99 | 63% |
| emb CAA38722.1 | emb CAB70733.1 | dbj BAA11824.1 | gb AAB34216.1 | | | gb AAA60286.1 | gb AAC16388.1 | | | emb[CAA028/3.1] | | gb[AAC15856.1 | emb CAB45723.1 | | | | | | | | |
| 17,000 dalton myosin light chain [Bos taurus] | (AL137423) hypothetical protein [Homo sapiens] | Six5 [Mus musculus] | PAX8=paired-box- | protein [alternatively | spliced] [human, 1 | ribosomal protein S20 | (AF063243) ribosomal | protein L30 [Bos | tautus | unnamed protein product [Homo | sapiens | ribosomal protein L11 [Homo sapiens] | (AĽ080125) | hypothetical protein | Homo sapiens | 1 | | | | | |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | blastx.2 | blastx.2 | | | blastx.2 | | blastx.2 | blastx.2 | | | | | | | | |
| 1664 | 1665 | 1666 | 1667 | | | 1668 | 1669 | | ļ | 1670 | | 1671 | 1674 | | | | | | | | |
| HOPKN67 R | HOPKO04 RA | HOPKO61 R | HOPKP45R | | | НОРКQ20 Р | HOPKO82 | R | | HOPKRS6R | | HOPKU33 R | HOVBK49 | 24 | | | | | | | |
| HOPKN67 HOPKN67 | HOPKO04 | HOPKO61 | HOPKP45 | | | НОРКQ20 | HOPKO82 | | | HOPKR56 | | НОРКИЗЗ | HOVBK49 | | | | | | | | |

| 152 | 152 | 369 | 375 | 375 | 372 | 375 | 170 | 375 | 375 | 375 | 173 | 407 | 369 | 407 | 407 | 407 | 407 | 407 | 407 | 401 | 407 | 152 | 305 | 146 | 434 | 109 | 249 | 319 | 399 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|-------------------------|--------|---------------------|-----------------------|
| 12 | 21 | 112 | 121 | 121 | 121 | 121 | 24 | 121 | 121 | 121 | 27 | 258 | 178 | 258 | 264 | 261 | 264 | 258 | 258 | 261 | 258 | 27 | 243 | 42 | 246 | 20 | 112 | 182 | 340 |
| 61% | 63% | 40% | 40% | 38% | 38% | 36% | 46% | 34% | 34% | 32% | 38% | 42% | 34% | 36% | 37% | 34% | 39% | 34% | 32% | 31% | 30% | 36% | 52% | 78% | 20% | 55% | 34% | %98 | 75% |
| | | | | | | | | | | | | | | | | | | | | | | | | | gb AAD46422.1 AF1 | 05715 1 | I | gb AAB81618.1 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | (AF105715) ubiquitous | nuclear protein [Gallus | gallus | (AF025331) receptor | for activated protein |
| | | | | | | | | | | | | | | | | | | | | | · | · | | | blastx.2 | | | blastx.2 | |
| | | | | | | | | | | | • | | | | | | | | • | | | | | | 1675 | | | 1676 | |
| | | | | | | | | | | | , | | | : | | | | | | | | | | | HOVBS15R | | | HOVBX41 | R |
| | ,_ | | | | | | | | | | | | | | | | | | | | | | | | HOVBS15 | | | HOVBX41 HOVBX41 | |

| kinas | kina; nilot | kina | kina nilot | kinase C [Oreochromis niloticus] | | 72% | 309 | 341 |
|---------|----------------------|------|---------------|--|------------------------------|-------------------|-----------------|-------------------|
| HOVCN03 | HOVCN03 R | 1678 | blastx.2 | (AJ005798) thyroid hormone receptor alpha 2 [Sus scrofa] | emb CAA06702.1 | %99 | 23 | 214 |
| CU89 | HOVCU89 HOVCU89 | 1680 | blastx.2 | ribosomal protein L18a - rat | pir S03957 R5RT18 | 72% | 36 | 578 |
| HOVCV33 | HOVCV33 R | 1681 | blastx.2 | alpha-smooth muscle actin [Oryctolagus cuniculus] | emb CAA43139.1 | 92% | 287 | 321 454 |
| HOVCW4 | HOVCW45 | 1682 | blastx.2 | (AL137585) hypothetical protein | emb CAB70827.1 | 97% | 372 | 220 464 |
| | | | | [Homo sapiens] | | 80% 21% 23% | 463 | 522 196 190 |
| HOVCZ45 | HOVCZ45 R | 1684 | blastx.2 | retrovirus-related pol polyprotein pseudogene - human 1 | pir A44282 A44282 | 65% 61% | 444 | 361 506 |
| DB61 | HOVDB61 HOVDB61 R | 1686 | blastx.2 | (AF067728) transactivating protein BRIDGE [Rattus norvegicus] | gb AAD32925.1 AF0 67728_1 | %68 | 91 | 204 |
| НОУДВ65 | HOVDB65 R | 1688 | blastx.2 | ZZ:beta-Gal' IgG-binding fusion protein unidentified cloning 1 | gb[AAB00807.1] | %96 | 112 | 282 |
| HOVDG71 | HOVDG71 R | 1692 | blastx.2 | 23 kD highly basic protein [Homo sapiens] | emb CAA40254.1 | 75% 81% 27% | 116 3 103 | 226 98 210 |
| /DH09 | HOVDH09 HOVDH09 R | 1693 | blastx.2 | binding protein [Homo sapiens] | gb AAA36032.1 | 98% 81% | 15 405 | 299 485 |

| 381 | . 433 | 297 | | 254 | | 611 | 612 | 393 | | | 209 | 47 | 369 | | | 576 | | | 186 | | | 648 | | 217 | | 570 | 221- |
|-----|-------|-------------------|---|--------------------|------------------------|---------------|----------|------------------|------------------|----------|----------------------|---------|-------------------|------------------------|-------------------------|----------------------|--------------------|---------|----------------------|-------------------------|----------|-------------------------|----------------|-----------------|----------------|--------------------|------------------------|
| 316 | 299 | 121 | | 126 | | 246 | 280 | 49 | | | 96 | 21 | 277 | | | 28 | | | 4 | - *** | | 64 | | 95 | • | 217 | 15 |
| 81% | 44% | 81% | | %69 | | 71% | %06 | %66 | - | | 71% | 77% | 93% | | | 100% | | | 100% | | | %76 | | %76 | | 94% | 97% |
| | | gb AAB00807.1 | | gb AAD34103.1 AF1 | 21866 1 | gb AAA67526.1 | | gb AAA73877.1 | | | gb AAA52135.1 | | gb AAB00807.1 | | | emb CAA58449.1 | | | gb AAA21814.1 | | | gb AAA36161.1 | | emb CAA00596.1 | | emb CAA40254.1 | |
| | | ZZ:beta-Gal' IgG- | binding fusion protein [unidentified cloning 1] | (AF151866) CGI-108 | protein [Homo sapiens] | MTHSP75 [Homo | sapiens] | thyroid receptor | interactor [Homo | sapiens] | cytochrome c-1 [Homo | sapiens | ZZ:beta-Gal' IgG- | binding fusion protein | [unidentified cloning 1 | Lutheran blood group | glycoprotein [Homo | sapiens | macrophage migration | inhibitory factor [Homo | sapiens] | laminin-binding protein | [Homo sapiens] | HLA-DR-beta-A | [Homo sapiens] | 23 kD highly basic | protein [Homo sapiens] |
| | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | |
| | | 1694 | | 1696 | | 1703 | | 1704 | | | 1707 | | 1712 | | | 1717 | | | 1718 | | | 1719 | | 1720 | | 1721 | · |
| | | HOVDH75 | ~ | HOVDV70 | X. | HOVEF34R | | HOVEF81R | | | HOVELSIR | | HOVEY58 | R | | HOVJJ09R | | | HOVJR56R | | | HOVJU75R | | HOVJW17 | R | HOVJY68R | |
| | | HOVDH75 | | HOVDV70 | | HOVEF34 | | HOVEF81 | | | HOVEL51 | | HOVEY58 | | | HOVJ109 | | | HOVJR56 | | | HOVJU75 | | HOVJW17 HOVJW17 | | HOVJY68 | |

| 241 | 487 | 379 | 601 | 629 | 929 | 553 | 684 | 253 | 299 | 331 | | 929 | | | | 786 | 802 | | 464 | 456 | | | 451 | |
|-----|---|------------------------------------|---|-----------------|------------------------|-----|-----|--------------------|--------------------|------------------|-----------------------|---------------------|--------------------|---------------------|----------|-------------------|----------------------|--------------|----------------|--------------------------|---------------------|----------------|-------------------|---------|
| 149 | 2 | 2 | 353 | 2 | 65 | 65 | 496 | 17 | 231 | 140 | | 68 | | | | 64 | 746 | | 84 | 136 | | - | 26 | |
| 35% | %86 | %86 | %99 | %08 | 41% | 31% | 38% | 74% | 95% | 20% | | 94% | | | | %88 | 20% | | 97% | %66 | | | %08 | |
| | emb CAB69339.1 | emb CAA27801.1 | gb AAA36776.1 | gb AAD08718.1 | | | | gb AAA87172.1 | | gb AAA57126.1 | | emb CAA56869.1 | | | | emb CAA40268.1 | | | dbj BAA04547.1 | gb AAA60602.1 | | | emb CAA47406.1 | |
| | unnamed protein product [unidentified] | PBG-D (aa 1-344) [Homo sapiens] | transformation-related protein [Homo sapiens] | poly(A)-binding | protein [Homo sapiens] | | | heat-shock protein | [Canis familiaris] | ADP-ribosylation | ractor [Homo sapiens] | Nascent polypeptide | associated complex | alpha subunit [Homo | sapiens] | protein synthesis | initiation factor 4A | Mus musculus | HBp15/L22 [Sus | isolog of yeast suil and | rice gos2; putative | [Homo sapiens] | amphiglycan [Homo | sapiens |
| | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | i | blastx.2 | | blastx.2 | | blastx.2 | | | | blastx.2 | | | blastx.2 | blastx.2 | | | blastx.2 | |
| | 1723 | 1725 | 1726 | 1727 | | | | 1729 | | 1730 | | 1731 | | | | 1732 | | | 1733 | 1734 | | | 1735 | · |
| | HOVKE66 R | HOVKG18 R | HPAMB11 R | HPAMB60 | 絽 | | | HPAMB93 | R | HPAMC04 | K | HPAMC19 | ~ | | | HPAMC27 | X | | HPAMC90 R | HPAMD56 | 2 | • | i | R |
| | HOVKE66 | HOVKG18 | HPAMB11 | HPAMB60 | | | | HPAMB93 | | HPAMC04 | | HPAMC19 HPAMC19 | | | | HPAMC27 | | | HPAMC90 | HPAMD56 HPAMD56 | | | HPAME35 | |

| 8 414 | 2 520 | | 3 434 | 1 612 | 7 374 | | | 4 516 | 8 661 | 7 701 | 1 592 | | | 2 609 | 5 494 | 2 190 | | 1 509 | | | | | 2 493 | 2 600 | | 1 358 | 6 159 |
|----------------------|-------------|---------|--|-----------------------|-----------------------|--------------------|--------------------|---------------------|-----------------|-------|----------------------|----------------|----------------------|----------------|-------|--------------------|----------------------|---------------------|------------------|---------------|-------------|-----------|--------------------|------------------------|-------------------|----------------|------------------------|
| 6 178 | 6 452 | 6 619 | 6 63 | 6 331 | 6 117 | | | 394 | 518 | 6 627 | 6 11 | | | 6 412 | 6 405 | | | 6 381 | | | | | | 6 472 | | 6 221 | 6 46 |
| 45% | 73% | 42% | %9L · | 61% | %65 | | 94% | 95% | 77% | %89 | %18 | | %26 | 64% | 63% | 100% | | 100% | | | | | %86 | %08 | %69 | 91% | 42% |
| gb AAA74186.1 | | | gb AAD27745.1 AF1 32970 1 | gb AAC18792.1 | | | gb[AAB96924.1] | | | | emb CAA47670.1 | | emb[CAA81022.1] | | | emb CAA40254.1 | | gb[AAC36129.1] | | | • | | emb CAA40254.1 | | gb AAC97986.1 | | |
| actin [Dictyostelium | discoideum] | | (AF132970) CGI-36 protein [Homo sapiens] | (AC004393) Similar to | ribosomal protein L17 | gb X62724 from 1 1 | (AF039752) histone | deacetylase-2; HD-2 | [Gallus gallus] | | ribosomal protein S8 | [Homo sapiens] | ribosomal protein S7 | [Homo sapiens] | | 23 kD highly basic | protein Homo sapiens | (AF017153) putative | RNA helicase and | RNA dependent | ATPase [Mus | musculus] | 23 kD highly basic | protein [Homo sapiens] | (AC006127) BRG-1- | HUMAN [AA 812- | 1440]; nuclear protein |
| blastx.2 | | | blastx.2 | blastx.2 | | | blastx.2 | | | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | | | | blastx.2 | | blastx.2 | | |
| 1737 | | | 1738 | 1739 | | | 1740 | | | | 1741 | | 1742 | | | 1744 | | 1745 | | | | - | 1746 | | 1748 | | |
| HPAMF16 | 8 | | HPAMF38 R | HPAMG44 HPAMG44 | R | | HPAMG54 | R | | | HPAMI11R | | HPAMJ71R | | | HPAMQ76 | ~ | HPAMT47 | × | | | | HPAMU33 | R | HPAMW44 | R | |
| HPAMF16 HPAMF16 | | | HPAMF38 | HPAMG44 | | | HPAMG54 | | | | HPAMI11 | | HPAMJ71 | | | HPAMQ76 | | HPAMT47 | | | | | HPAMU33 | | HPAMW4 | 4 | |

| (AC004908) similar to ribosomal protein gb AAD05196.1 1.23a; similar to P29316 (PID:g132848) gb AAA42278.1 [Homo sapiens] gb AAA42278.1 isomerase [Rattus mb CAB44357.1 [Homo sapiens] emb CAB44357.1 [Homo sapiens] gb AAA36033.1 sapiens] gb AAA36033.1 cell surface gb AAA36033.1 glycoprotein [Homo sapiens] gb AAA36033.1 cell surface gb AAA36033.1 glycoprotein [Homo sapiens] gb AAA36033.1 cell surface gb AAA36033.1 glycoprotein [Homo sapiens] gb AAA36033.1 cell surface gb AAA36033.1 glycoprotein [Homo sapiens] gb AAA36033.1 |
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| |
| mobility group protein Spalax ehrenbergi |
| ribosomal protein S17 gb AAA60284.1 |
| Homo sapiens] |
| 23 kD highly basic emb CAA40254.1 |

| Bactate dehydrogenase |
|---|
| dbj BAA00013.1 100% 3 emb CAB01127.1 32% 60 1- emb CAA36554.1 100% 36 37a gb AAA60280.1 98% 60 sp Q16465 YZA1_H 100% 337 UMAN |
| emb CAB01127.1 32% 60 emb CAA36554.1 100% 36 gb AAA60280.1 98% 60 sp Q16465 YZA1_H 100% 337 UMAN 88% 53 gb AAB00807.1 94% 136 |
| emb CAA36554.1 100% 36 gb AAA60280.1 98% 60 sp Q16465 YZA1_H 100% 337 UMAN gb AAB00807.1 88% 53 |
| emb CAA36554.1 100% 36 gb AAA60280.1 98% 60 sp Q16465 YZA1_H 100% 337 UMAN gb AAA16105.1 88% 53 gb AAB00807.1 94% 136 |
| emb CAA36554.1 100% 36 gb AAA60280.1 98% 60 sp Q16465 YZA1_H 100% 337 UMAN 88% 53 gb AAA16105.1 88% 53 gb AAB00807.1 94% 136 |
| emb CAA36554.1 100% 36 gb AAA60280.1 98% 60 sp Q16465 YZA1_H 100% 337 UMAN 337 gb AAA16105.1 88% 53 gb AAB00807.1 94% 136 |
| gb AAA60280.1 98% 60 sp Q16465 YZA1_H 100% 337 UMAN 337 gb AAA16105.1 88% 53 gb AAB00807.1 94% 136 |
| gb AAA60280.1 98% 60 sp Q16465 YZA1_H 100% 337 UMAN 88% 53 gb AAA16105.1 88% 53 gb AAB00807.1 94% 136 |
| sp Q16465 YZA1_H 100% 337 UMAN gb AAA16105.1 88% 53 gb AAB00807.1 94% 136 |
| sp Q16465 YZA1_H 100% 337 UMAN gb AAA16105.1 88% 53 gb AAB00807.1 94% 136 |
| gb AAB00807.1 88% 53 |
| gb AAA16105.1 88% 53 gb AAB00807.1 94% 136 |
| gb AAB00807.1 94% 136 |
| gb AAB00807.1 94% 136 |
| • |
| , |
| |
| gb AAB00807.1 94% 244 414 |
| binding fusion protein |
| funidentified cloning 1 |
| Csa-19 [Homo sapiens] gb AAA86463.1 94% 54 356 |
| alpha subunit (aa 1- emb CAA27137.1 97% 3 314 |
| |

| 101 | 185 | 327 451 | 326 40 | 206 | 190 | 544 | 379 | 177 | 306 |
|--------------------------------------|--------------------------------------|--|--|--|--|--|--|--|--|
| 33 | 3 | 422 | 222 2 | 336 | 2 | 374 | 209 | 58 | 1 |
| 100% | 61% | %06 %E6 | 97% 92% | %96 | %86 | %96 | %96 | 92% | %66 |
| dbj BAA23593.1 | pir JC2022 JC2022 | emb CAA80977.1 | gb AAA60282.1 | gb[AAB00807.1] | emb CAA73248.1 | gb[AAB00807.1 | gb AAB00807.1 | gb AAB28826.1 | emb CAA42782.1 |
| antizyme inhibitor [Homo sapiens] | enhancer factor I chain A-D - rat | integrin associated protein [Homo sapiens] | ribosomal protein L7a large subunit [Homo sapiens] | ZZ:beta-Gal' IgG- binding fusion protein funidentified cloning 1 | putative progesterone binding protein [Homo sapiens] | ZZ:beta-Gal' IgG- binding fusion protein funidentified cloning 1 | ZZ:beta-Gal' IgG- binding fusion protein funidentified cloning 1 | major histocompatibility complex class II antigen beta chain, 1 Partial Mutant, 57 aa] [Homo sapiens] | H+-ATP synthase subunit b [Homo sapiens] |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 1788 | 1790 | 1797 | 1800 | 1802 | 1803 | 1804 | 1806 | 1807 | 1809 |
| HPCPH52R | HPCPU27R | HPCQT88R | HPCQX47R | HPCTD21R | HPCTD23R | HPCTD25R | HPCTF29R | HPCTF83R | HPCTI86R |
| HPCPH52 | HPCPU27 | HPCQT88 | нРСQX47 | HPCTD21 | HPCTD23 | HPCTD25 | HPCTF29 | HPCTF83 | HPCTI86 |

| 538 | 377 | 148 248 318 | 205 | 153 | 254 342 | 412 | 542 | 209 85 244 |
|--|---|--|--|---|--|---|---|---|
| 77 | 48 | 26 138 250 | 20 | 1 | 3 229 | 2 | 45 | 84 14 209 |
| %66 | %66 | 85% 91% 100% | %58 | 100% | 95% 64% | 100% | 84% | 95% 54% 91% |
| gb AAC05826.1 | emb CAA27193.1 | emb CAA56100.1 | emb CAB55934.1 | dbj BAA08389.1 | gb AAA67551.1 | emb CAA87392.1 | gb AAA59831.1 | emb CAA50506.1 |
| (AF042857) lung cancer antigen NY-LU-12 variant A [Homo sapiens] | ribosomal protein L35a (aa 1-110) [Rattus norvegicus] | 8.2 kDa differentiation factor [Homo sapiens] | (AL117452) hypothetical protein [Homo sapiens] | Aop1_Human, MER5(Aop1_Mouse)- like protein [Homo sapiens] | 2,4-dienoyl-CoA reductase [Homo sapiens] | RNA polymerase II elongation factor-like protein [Homo sapiens] | MHC HLA-DR-beta chain precursor old gene name 'HLA- DRA1' [Homo sapiens] | 40S ribosomal protein S14 [Podocoryne carnea] |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| 1811 | 1815 | 1816 | 1817 | 1818 | 1822 | 1823 | 1824 | 1825 |
| HPCTO69R | HPCTV40R | HPCTV53R | HPCTV92R | HPCTX22R | HPDOF81R | HPDOP05R | HPDOP20R | HPDOS87R |
| HPCTO69 | HPCTV40 | HPCTV53 | HPCTV92 | HPCTX22 | HPDOF81 | HPDOP05 | HPDOP20 | HPDOS87 |

| 99 | 269 | 468 | | 489 | | 485 | | | 291 | 110 | 519 | | | 460 | | | 214 | | 337 | 319 | 319 | 319 | 399 | 402 | 387 | 384 | 402 |
|-----|----------------|-----------------|---------------------------------|--------------------------|----------------|------------------|--------------------|----------------|---------------|----------|-------------------|------------------------|------------------------|--------------------|---------------------|-----------------------|------------------|-------------------------------|----------------|------------------------|--------------------------|------------------|-----|-----|-----|-----|-----|
| . 1 | 3 | 250 | | 49 | - | 318 | | | 121 | 87 | 349 | | | 131 | | | 2 | | 128 | 125 | 125 | 155 | 292 | 325 | 325 | 325 | 325 |
| 54% | %86 | %68 | | 04% | · | %86 | | | %76 | 87% | 25% | | | 94% | | | <i>%9L</i> | • | 45% | 36% | 36% | 32% | 37% | 48% | 21% | %09 | 45% |
| | gb AAA51828.1 | • | | ob AAA63263 1 | | gb AAC63516.1 | | | gb AAA36021.1 | | gb AAB00807.1 | , | | emb CAA08974.1 | | | gb AAC78797.1 | | dbj BAA86989.1 | | | | | | | | |
| | N-acetyl-beta- | glucosaminidase | prepro-polypeptide Homo saniens | frinentidyl nentidase II | [Homo sapiens] | (AF073298) small | EDRK-rich factor 2 | [Homo sapiens] | Q1Z 7F5 [Homo | sapiens] | ZZ:beta-Gal' IgG- | binding fusion protein | unidentified cloning 1 | (AJ010046) guanine | nucleotide-exchange | factor [Homo sapiens] | (AF053356) ORF3, | splicevariantc [Homo sapiens] | (AB021643) | gonadotropin inducible | transcription repressor- | 3 [Homo sapiens] | 1 | | | ٠ | |
| | blastx.2 | • | | blastx 2 | | blastx.2 | | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | | | | | | | |
| | 1826 | , | | 1827 | | 1829 | | | 1830 | | 1835 | . <u>.</u> | | 1836 | | | 1837 | | 1838 | | | | | | | | |
| | HPDOU54 | R | | HPDO743R | | HPDPC90R | ¥ | | HPDPH14R | | HPDPQ16R | | | HPDPR73R | | | HPDPS51R | | HPDPS90R | | • | | | | | | |
| | HPDOU54 | | | HPDO743 | | HPDPC90 | | | HPDPH14 | | HPDPQ16 | | | HPDPR73 | | | HPDPS51 | | HPDPS90 | | | | | | | | |

| l ∞ | 7 | | 7 | 00 | 8 | 7 | 2 | 2 | 3 | 2 | 6 | ~ | 2 | 4 | | | 4 | _ | C | 6 | | | | <u> </u> | | | | |
|-----|-----|-----|-----|--------------------------------------|-------------------|----------------|---------------|---------------------|--------|-----|-----|-----|-----|------------------------|----------------|----------------|------------------------|-----|-----|---------------|---------------|----------------------|----------------|----------------|-------------|-------------------|----------------------|-----------|
| 51, | 402 | 46 | 43 | 418 | 393 | 387 | 64, | 64. | 453 | 64. | 68 | 69 | 692 | 334 | | 371 | 494 | 267 | 241 | 539 | | | | 441 | | _ | | |
| 390 | 325 | 399 | 396 | 14 | 199 | 199 | 7 | 7 | 7 | 226 | 639 | 639 | 639 | 89 | | 3 | 345 | 226 | 178 | 18 | | - | | 1 | | | | |
| 32% | 38% | 47% | 64% | %001 | %96 | 85% | %56 | 94% | %26 | 94% | 64% | 61% | 61% | 100% | | 73% | 94% | 85% | 41% | %66 | | | | %96 | | - | , | |
| | | | | gb AAA60284.1 | gb AAA60213.1 | | gb AAB92373.1 | | | | | | | gb AAA60280.1 | | gb AAD09822.1 | - | | | gb AAA20683.1 | | | | emb CAA18608.1 | | | | |
| | | | | ribosomal protein S17 [Homo sapiens] | prothymosin alpha | [Homo sapiens] | (AF038129) | polyubiquitin [Ovis | aries] | , | | | | ribosomal protein L37a | [Homo sapiens] | (AF115850) PAR | protein [Homo sapiens] | | | succinate | dehydrogenase | flavoprotein subunit | [Homo sapiens] | (AL022577) | dJ353H6.2.2 | (SW1/SNF related, | matrix associated, 1 | (SNF2L1)) |
| | | • | | blastx.2 | blastx.2 | | blastx.2 | | | | | | | blastx.2 | , | blastx.2 | | | | blastx.2 | | | | blastx.2 | | | | |
| | | | | 1841 | 1842 | | 1843 | | | | • | | | 1845 | | 1846 | | | | 1847 | | | | 1848 | | | | |
| | | | | HPDPX12R P00B | HPDPY83R | P00B | HPDQC34R | | | | | | | нродн11 | R | нРDQН34 | R | | | HPDQI50R | | | | HPDQI55R | | | | |
| | | | | HPDPX12 | HPDPY83 | | HPDQC34 | | | | | | - | нРDQH11 | | нРDQH34 | | | | HPDQI50 | | | | HPDQ155 | | | | |

| | 639 | 761 | 550 | 200 | 784 | | | 264 | 410 | 410 | | 569 | | | 574 | | 466 | 705 | | | 337 | | 443 | | 443 | 694 |
|-------------------------------------|-------------------|------------------|---------------------|--------------------------|---------------------|-------------------|----------------|-----------------------|-----|-------------------|----------|---------------------|-----------------------|----------------|----------------------|----------------|---------------------|-------------------|----------------|-----------|-----------------------|--------------|---------------------|----------------|-----------------------|--------------------|
| | 10 | 555 | , | 7 7 7 | CCC | | | 4 | 258 | 3 | | 3 | | | 35 | | 113 | 466 | | | 119 | | 3 | | 3 | 446 |
| | %16 | %09 | %06 | 2006 | 9070 | | | %58 | 72% | %001 | | %86 | | | %IL | | 100% | ² %02 | | | 72% | | %26 | | %001 | 63% |
| | emb CAA45124.1 | | AbilBA 413213 11 | discretion of the second | | | • | emb CAA59350.1 | • | gb AAA36368.1 | | gb[AAC27614.1] | | | emb CAA81022.1 | | gb AAF22155.1 AF1 | 33093_10 | | | emb CAA57811.1 | | emb CAB10847.1 | | gb AAF13710.1 AF1 | 99488 1 |
| (PUTATIVE isoform 2) [Homo sapiens] | RNA polymerase II | 140 kDa subunit. | similar to mutative | ATD domestic DAIA | helicase K03H1.2 of | C.elegans(S41025) | [Homo sapiens] | Cctg [Xenopus laevis] | | neuroleukin [Homo | sapiens] | (AF068227) putative | transmembrane protein | [Homo sapiens] | ribosomal protein S7 | [Homo sapiens] | (AF133093) ARD-1 N- | acetyltransferase | homologue [Mus | musculus] | Histone H3 [Asparagus | officinalis] | DNA binding protein | [Homo sapiens] | (AF199488) beta-actin | [Coturnix coturnix |
| | blastx.2 | | hlacty 2 | O143CA1C | , | | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | | | blastx.2 | | blastx.2 | | blastx.2 | |
| | 1851 | | 1852 | 7001 | , | | | 1854 | | 1858 | | 1859 | | | 1860 | | 1862 | | | | 1863 | | 1864 | | 6981 | • |
| | HPDQR20R | | HPDOR88R | 1100000 | | | • | HPDQS25R | , | HPDQT32R | | HPDQU81 | R | | 10000 | R | нРDQW39 НРDQW39 | 8 | | | нРФОХ13 | R | нРDQY23 | R | HPDQZ65R | |
| | HPDQR20 | | HPDOR88 | מיייל אייי | | | | HPDQS25 | , | HPDQT32 | | HPDQU81 | | | HPDQV07 | | НР ДОW39 | | | | НР ДОХ13 | | HPDQY23 | | HPDQZ65 | |

| | 240 559 | 189 | 748 | 236 | 753 | 460 | 528 | 302 | 307 | 317 | 260 | 372 | 739 | 290 | 555 | | 390 422 | |
|-----------|--|------------------------------|-------------------------------------|----------------|-----|------------------------|-----|---|-----------------------|----------------------|------------------------|---------------------------------------|-----------------------------|-------------------------------------|--|---------|--|----------------|
| | 4 362 | 16 | 281 | 21 | 505 | 20 | 451 | 12 | 17 | 30 | 36 | 304 | 2 | 81 | 4 | | 16 381 | |
| | 72% 45% | 75% | 28% | 95% | 20% | 94% | 84% | %98 | 100% | 100% | 37% | 78% | %88 | 91% | %6 <i>L</i> | | 98% 100% | |
| | gb AAB18626.1 | emb CAA62806.1 | emblCAA82248.11 | | | emb CAA77980.1 | | dbj BAA04888.1 | dbj BAA04888.1 | ob AAA5946711 | | | gb AAC50450.1 | emb CAA81488.1 | emb CAA56869.1 | - | gb AAC31959.1 | |
| japonica] | interferon regulatory factor 7 [Mus | musculus actin [Diadromus | pulchelius ribosomal protein I.8 | [Homo sapiens] | | Ran [Canis familiaris] | | ribosomal protein L37 [Homo sapiens] | ribosomal protein L37 | GI I-Kminnie related | protein [Homo saniens] | · · · · · · · · · · · · · · · · · · · | UHX1 protein [Homo sapiens] | ribosomal protein [Homo sapiens] | Nascent polypeptide associated complex alpha subunit [Homo | sapiens | (AF081484) alpha- tubulin isoform 1 | [Homo sapiens] |
| | blastx.2 | blastx.2 | blastx 2 | | | blastx.2 | | blastx.2 | blastx.2 | blacty 2 | | | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | |
| | 1870 | 1871 | 1872 | | | 1874 | | 1876 | 1877 | 1870 | | | 1880 | 1881 | 1882 | | 1883 | |
| , | HPDRA44R | HPDRA50R | HPDRE65R | | | HPDRG73R | | HPDRM93 R | HPDRO04R | APEDAUGH | 111 C 111 C 111 | | HPDRP41R | HPDRQ66R | HPDRQ84R | | HPDRR71R | |
| | HPDRA44 | HPDRA50 | HPDRE65 | | | HPDRG73 | | HPDRM93 | HPDRO04 | 75d audit | 00 707 71 | | HPDRP41 | нРDRQ66 | HPDRQ84 | | HPDRR71 | |

| 299 | 369 | 808 | 999 | 244 276 | | 231 | 573 | 222 | 598 | 516 | 522 | 216 | 522 | 522 | 489 | 486 | 522 |
|-------------------|-----------------------------------|---|---------------------------------------|----------------------------------|-------------------------------------|------------------------------------|----------------------------|---|-------------------|------------------------|-----------------|-----|-----|-----|-----|-----|-----|
| 15 | 301 | . 14 | 3 | . 59 247 | | - | 4 | | 2 | 310 | 310 | 307 | 310 | 310 | 307 | 310 | 286 |
| %86 | %69 | 100% | %09 | %06 %86 | | %96 | %06 | %56 | 64% | %88 | 20% | 20% | 48% | 48% | 25% | 20% | 44% |
| gb AAF08293.1 AF1 | 95094_1 | emb CAA37039.1 | emb CAA34947.1 | emb CAA16159.1 | | dbj BAA11936.1 | gb[AAA61279.1] | gb AAA36278.1 | gb AAB25797.1 | | | | | | , • | | |
| (AF195094) gamma | actin-like protein [Mus musculus] | peptidylprolyl isomerase [Homo saniens] | leukocyte antigen F [Homo sapiens] | (AL021366) cICK0721Q-4.1 (PHD | finger protein 2) (isoform 2) [Homo | HLA-A9HH antigen [Homo sapiens] | vimentin [Homo sapiens] | MHC HLA-DR2(non-Dw2/non-Dw12)a glycoprotein beta-chain Homo sapiens | type XVI collagen | alpha 1 chain, alpha 1 | (XVI) [human, 1 | | | | | | • |
| blastx.2 | | blastx.2 | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | | | | | | |
| 1885 | | 1886 | 1888 | 1890 | | 1891 | 1893 | 1895 | 1897 | | | | | | | | |
| HPDRS46R | | HPDRS87R | HPDRT37R | HPDRU03R | | HPDRU37R | HPDRV73R | HPDRW09 R | HPDRY37R | | | | | | | | |
| HPDRS46 | | HPDRS87 | HPDRT37 | HPDRU03 | | HPDRU37 | HPDRV73 | HPDRW09 | HPDRY37 | | | | | | | | |

| 498 | 492 | 504 | 498 | 522 | 516 | 492 | 207 | 522 | 522 | 489 | 522 | 489 | 450 | 522 | 307 | 477 | 498 | 492 | 510 | 304 | 207 | 498 | 522 | 456 | 498 | 492 | 486 | 88 | 88 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 310 | 280 | 295 | 310 | 310 | 295 | 310 | 310 | 310 | 310 | 280 | 310 | 295 | 310 | 310 | 2 | 310 | 310 | 280 | 304 | 14 | 310 | 289 | 310 | 280 | 310 | 295 | 316 | 2 | 2 |
| 46% | 45% | 45% | 46% | 46% | 45% | 53% | 44% | 45% | 48% | 44% | 46% | 47% | 26% | 46% | 31% | 47% | 43% | 40% | 47% | 37% | 48% | 44% | 40% | 43% | 46% | 45% | 46% | %59 | %29 |
| | | • | | | | | | | | | | - | | | | | | | | | | | | | | | | | |
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| 453 | 498 | 88 | 88 | 486 | 88 | 489 | 304 | 486 | 91 | 304 | 492 | 520 | 520 | 88 | 88 | 310 | 88 | .91 | 492 | 316 | 88 | 91 | 486 | 492 | 304 | 319 | 88 | 88 | 88 |
|-----|------|---------------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|-------------|----------|-----|-----|-----|------|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 310 | 307 | 5 | 7 | 307 | 7 | 319 | 212 | 310 | 7 | 197 | 370 | 212 | 212 | | 7 | 206 | 7 | 5 | 373 | 212 | 2 | 2 | 310 | 310 | 209 | 188 | 2 | 7 | 5 |
| 43% | 41% | 64% | 28% | 41% | 62% | 43% | 61% | 40% | 54% | 44% | 42% | 30% | 31% | 28% | 28% | 48% | 28% | 25% | 43% | 45% | 25% | %95 | 38% | 32% | 20% | 38% | 21% | 54% | 21% |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 88 | 88 | 88 | 91 | 88 | 295 | 286 | 88 | 88 | 304 | 304 | 88 | 88 | 91 | 91 | 304 | 304 | 319 | 91 | 310 | 82 | . 91 | 100 | 304 | 91 | 304 | 319 | 310 | 88 | 522 |
|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 5 | 3 | 7 | 5 | 2 | 209 | 188 | 2 | 2 | 212 | 212 | 2 | 2 | S | 7 | 209 | 188 | 194 | S | 185 | 2 | 7 | 2 | 194 | 2 | 500 | 200 | 179 | 7 | 403 |
| 21% | 28% | 82% | 25% | 51% | 25% | 48% | 53% | 51% | 54% | 48% | 25% | 25% | 25% | 20% | 46% | 41% | 45% | 48% | 42% | 51% | 45% | 47% | 41% | 51% | 46% | 40% | 36% | 25% | 47% |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 304 | 304 | 88 | 88 | 88 | 310 | 88 | 91 | 91 | 304 | 307 | 91 | 304 | 307 | 88 | 310 | 319 | 91 | 304 | 310 | 313 | 304 | 304 | 8 | 88 | 88 | 88 | 91 | 88 | 304 |
|-----|-----|-----|-----|-------------|-----|-----|-----|------|-----|-----|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|
| 209 | 197 | S | 2 | 2 | 200 | 2 | 7 | 2 | 212 | 209 | 2 | 212 | 209 | 5 | 212 | 212 | 7 | 209 | 212 | 206 | 206 | 188 | 2 | 2 | 2 | 7 | 7 | 2 | 185 |
| 46% | 44% | 23% | 20% | 51% | 41% | 53% | 44% | 23% | 45% | 48% | 54% | 48% | 45% | 53% | 45% | 45% | 21% | 43% | 45% | 47% | 46% | 40% | 48% | 53% | 53% | 48% | 46% | 20% | 45% |
| | | | | • | | | | 70.2 | | | | | | | - | | | • | | | | | | | | - | | | |
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| 319 | 88 | 88 | 304 | 304 | 88 | 91 | 88 | 88 | 304 | 88 | 307 | 94 | 304 | 319 | 304 | 88 | 88 | 88 | 88 | 79 | 88 | 91 | 88 | 91 | 88 | 304 | 316 | 316 | 88 |
|-----|-----|-----|-----|-----|---------------|-------------|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-------|--------------|-----|-----|-------------|-----|-------------|-----|-------------|-----|-------------|-----|-----|-----|
| 200 | 5 | 2 | 221 | 212 | 5 | 2 | 2 | 2 | 212 | 5 | 209 | 5 | 188 | 212 | 188 | 2 | 2 | 5 | 2 | 5 | 5 | 5 | 2 | 2 | 2 | 215 | 212 | 221 | 5 |
| 41% | 46% | 48% | 46% | 45% | 20% | 48% | 48% | 48% | 47% | 23% | 45% | 44% | 46% | 41% | 37% | 28% | 48% | 20% | 51% | 25% | 20% | 44% | 51% | 20% | 46% | 46% | 45% | 40% | 20% |
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| 304 | 304 | 304 | 88 | 91 | 88 | 88 | 88 | 88 | 91 | 88 | 307 | 304 | 304 | 310 | 307 | 9/ | 79 | 88 | 88 | 88 | 304 | 304 | 319 | 88 | 97 | 304 | 304 | 310 | 91 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|-----|-----|----------------|-----|-----|-----|-----|-----|-------------|-----|-----|-------------|-----|-------------|-----|-----|-----|-------------|-----|
| 212 | 212 | 209 | 2 | 5 | 5 | 2 | 2 | 5 | 7 | 7 | 209 | 209 | 206 | 209 | 200 | 5 | 14 | 2 | 5 | 5 | 212 | 203 | 212 | 5 | 5 | 209 | 188 | 188 | 23 |
| 41% | 41% | 40% | 48% | 44% | 20% | 44% | 48% | 51% | 48% | 48% | 45% | 43% | 45% | 41% | 41% | 54% | 52% | 48% | 20% | 20% | 41% | 42% | 38% | 20% | 45% | 45% | 38% | 36% | 52% |
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|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| 88 | 88 | 304 | 304 | 304 | 88 | 88 | 88 | 304 | 304 | 307 | 307 | 310 | 304 | 304 | 304 | 304 | 88 | 88 | 88 | 283 | 88 | 304 | 304 | 88 | 88 | 79 | 91 | 304 | 29 |
| 2 | 2 | 212 | 212 | 188 | 14 | 2 | 5 | 188 | 209 | 212 | 212 | 236 | 212 | 500 | 185 | 185 | 23 | 2 | 23 | 203 | 2 | 212 | 209 | 32 | 23 | 5 | 5 | 197 | 2 |
| 48% | 48% | 48% | 41% | 38% | 25% | 44% | 51% | 41% | 40% | 40% | 40% | 48% | 41% | 40% | 37% | 35% | 23% | 46% | 24% | 20% | 44% | 41% | 43% | %19 | 51% | 20% | 41% | 40% | 20% |
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| 91 | 283 | 88 | 73 | 310 | 366 | 274 | 292 | 304 | 304 | 595 | 209 | 29 | 256 | 29 | 88 | 909 | 64 | 532 | 497 | 520 | 532 | 532 | 464 | 532 | 562 | 522 | 271 | 520 | 520 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|-----|-----|-----|-----|-------------|-------------|-----|-----|-----|-----|-----|-----|-----|
| 5 | 188 | 7 | 5 | 212 | 310 | 209 | 212 | 212 | 212 | 488 | 432 | 2 | 200 | 7 | 5 | 456 | 7 | 485 | 399 | 488 | 488 | 488 | 429 | 491 | 488 | 451 | 188 | 488 | 488 |
| 36% | 38% | 45% | 45% | 38% | 47% | 45% | 37% | 45% | 41% | 41% | 38% | 44% | 20% | 45% | 37% | 25% | 47% | 20% | 35% | 72% | 23% | 23% | 45% | 21% | 40% | 41% | 36% | 24% | 63% |
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| 553 | 520 | 535 | 544 | 532 | 509 | | 49 | 273 | 279 | 303 | 303 | 22 | 4 | 4 | | | - | - | _ | - | - | — | 4 | 481 | 351 | 339 | 640 | 746 | 717 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----------------|-------------------|----------------|--------|-----|
| 488 | 488 | 488 | 491 | 476 | 432 | 282 | 321 | 584 | 503 | 521 | 521 | 81 | 81 | 81 | 81 | 78 | 78 | 75 | 81 | 78 | 75 | 75 | 81 | 534 | 29 | 34 | 347 | 486 | 637 |
| 40% | 63% | 20% | 44% | 42% | 37% | 40% | 31% | 32% | 40% | 36% | 42% | %09 | 23% | 23% | 44% | 25% | 20% | 26% | 48% | 53% | 52% | 48% | 42% | 44% | %8 6 . | | %09 | 20% | 46% |
| | | | | | | | | | | | | | | | | | | - | | | | | | | gb AAC05596.1 | | | | |
| | | | | | , | | | | | | | | | | | | | | | | | | | | (AF012086) Ran. | binding protein 2 | [Homo sapiens] | 1 + | |
| | | | | | | | | | | - | | | | | | | | | | | | | | | blastx.2 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | 1898 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | HPDRZ11R | | | | |
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|-----|---------------------|----------|----------------------|-------------------------|----------------|--------------------|---------------------|-----------------------|----------------|---------------------|------------------------|------------------------|-----------|------------------|-------------------|----------|---------------------|----------|---------------|--------------------|----------------------|--------------|------------------|------------------|--------------|-----------------|------------------------|--------|
| 537 | 059 | 651 | 484 | | | 359 | 641 | 820 | 206 | | 436 | | | 326 | | | 417 | 633 | 338 | | | | 570 | _ | | | 634 | |
| 496 | 3 | 106 | 720 | | | 243 | 525 | 92 | 11 | | 62 | | | 3 | | | 94 | 334 | 3 | | | | 61 | | | | 116 | |
| 20% | %09 | 35% | 81% | | | 87% | %99 | 93% | 76% | | 84% | | | %66 | | | 83% | 20% | 100% | | | | %// | | | | %68 | |
| | emb CAA70356.1 | | gb AAD51611.1 AF1 | 53685_1 | | dbj BAA05647.1 | | pir S16510 MHHUM | | | pir A44282 A44282 | | | emb CAA47708.1 | | | dbj BAA02633.1 | | gb AAC39268.1 | | | | sp Q64152 BTF3_M | OUSE | | | pir S03957 R5RT18 | |
| | Lsc homologue [Homo | sapiens] | (AF153685) truncated | calcium binding protein | [Homo sapiens] | proteasome subunit | HsN3 [Homo sapiens] | Ig mu chain C region, | membrane-bound | splice form - human | retrovirus-related pol | polyprotein pseudogene | - human 1 | immunoglobulin M | heavy chain [Homo | sapiens] | APEX nuclease [Homo | sapiens] | (AF067370) | cytoplasmic dynein | light chain; Tctex-1 | [Bos taurus] | TRANSCRIPTION | FACTOR BTF3 (RNA | POLYMERASE B | TRANSCRIPTION 1 | ribosomal protein L18a | - rat |
| | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | | | blastx.2 | | | | blastx.2 | |
| | 1899 | | 1900 | | | 1901 | | 1903 | | | 1904 | | | 1906 | | | 1908 | | 1909 | | | | 1911 | | | | 1912 | |
| | HPDRZ29R | | HPDVA01 | ~ | | HPDVA06 | R | HPDVB70R | | | HPDVC28R | | | HPDVG06 | X | | HPDV125R | | HPDV195R | 1 | | | HPDVK79 | R | | | I | R |
| | HPDRZ29 | | HPDVA01 | | | HPDVA06 | | HPDVB70 | | | HPDVC28 | | | HPDVG06 | | | HPDVI25 | | HPDVI95 | | | | HPDVK79 | | | | HPDVK93 | |

| 303 | 293 625 | 099 | 561 | 546 | 439 | 570 | 630 | 268 | : | 573 | | 406 | 51 | | 189 | 394 | 521 | 549 | 231 | 281 | 693 |
|--|--------------------------|-----|-----|-----|-----|-----|-----|----------------|--|------------------|---|-------------------|-------------------|--------------------------|-----------------|----------------|-----|-----|--------------------|-----------|------------------------|
| 4 | 96 269 | 418 | 409 | 418 | 326 | 418 | 460 | 5 | | | | 35 | 4 | • , | 1 | 188 | 396 | 334 | 16 | . 240. | 163 |
| 100% | %95 %86 | %09 | 29% | 27% | 31% | 762 | 28% | 44% | | %16 | | 91% | 100% | | %96 | 84% | %19 | 41% | 54% | 78% | %96 |
| gb AAB39928.1 | emb CAA72789.1 | • | | - | | | | gb AAD48374.1 | | gb AAF21613.1 | | gb[AAA36105.1] | | | gb[AAC72274.1] | | | | gb AAA39345.1 | | emb CAA74245.1 |
| cell cycle checkpoint control protein [Homo sapiens] | hNop56 [Homo sapiens] | | | | | | | (AF123880) gag | polyprotein [multiple sclerosis associated retrovirus element] | (AF019036) human | IgG1 neutralizing heavy chain with leader 1 | gamma-interferon- | inducible protein | precursor [Homo sapiens] | (AC005954) ZO-3 | [Homo sapiens] | | | JUN-D protein [Mus | musculus] | protein phosphatase 2C |
| blastx.2 | blastx.2 | | | | | | | blastx.2 | | blastx.2 | | blastx.2 | | _• | blastx.2 | | | * | blastx.2 | | blastx.2 |
| 1914 | 1915 | | | | | | | 1916 | | 1917 | | 1918 | | | 1919 | | | | 1923 | | 1924 |
| HPDVL45 HPDVL45R | HPDVL52R | | | | | | | HPDVM61 | ~ | HPDVM63 | ጸ | HPDVM86 | R | | HPDVO67 | R | | | HPDVT37R | | HPDVU28 |
| HPDVL45 | HPDVL52 | | | | | | | HPDVM61 | | HPDVM63 | | HPDVM86 | | | HPDVO67 | | | | HPDVT37 | | HPDVU28 |

| | R | | | gamma [Homo sapiens] | | | | |
|----------|-----------------|------|----------|-------------------------|-------------------|------------|-----|-----|
| HPDVU72 | HPDVU72 | 1925 | blastx.2 | similar to the | gb AAA19604.1 | 100% | 3 | 497 |
| | ж | | | Drosophila splicing | - | 37% | 51 | 434 |
| | | | | regulator, 1 [Homo | | | | |
| | | | | sapiens] | | | | |
| HPDVU88 | HPDVU88 | 9761 | blastx.2 | glutathione peroxidase | gb AAA67540.1 | 91% | 51 | 599 |
| | R | | | [Homo sapiens] | | 72% | 595 | 648 |
| HPDVV78 | HPDVV78 | 1927 | blastx.2 | keratin 18 [Homo | gb AAA59461.1 | %99 | 129 | 638 |
| | R | | | sapiens] | | 85% | 2 | 124 |
| HPDWA88 | HPDWA88 | 1929 | blastx.2 | calcium binding protein | dbj BAA23325.1 | 94% | 168 | 473 |
| | R | | | [Homo sapiens] | | | | |
| HPDWC30 | HPDWC30 HPDWC30 | 1931 | blastx.2 | GlcNac-1-P transferase | emb CAB04787.1 | %58 | 285 | 404 |
| | R | | | [Homo sapiens] | | | | |
| HPDWD67 | HPDWD67 | 1934 | blastx.2 | open reading frame | emb CAA36054.1 | %62 | 319 | 14 |
| | Ř | | | (458 AA) [Homo | | | • | |
| | | | | sapiens] | | | | |
| HPDWD69 | HPDWD69 | 1935 | blastx.2 | ribosomal protein S26 | gb AAC26987.1 | 100% | 6 | 353 |
| | R | | | [Homo sapiens] | | | | |
| HPDWD81 | HPDWD81 | 1936 | blastx.2 | HLA-DRB4*0103 | emb CAB06483.1 | %66 | 4 | 330 |
| | ጸ | | | [Homo sapiens] | | 63% | 333 | 593 |
| | | | | | | 75% | 479 | 526 |
| | | | | | | 44% | 460 | 513 |
| HPDWE11 | HPDWE11 | 1937 | blastx.2 | polyadenylate binding | gb AAB97309.1 | 85% | 2 | 121 |
| | R | | | protein [Homo sapiens] | | | | |
| HPDWF93 | HPDWF93 | 1939 | blastx.2 | Nascent polypeptide | emb CAA56869.1 | 91% | 16 | 483 |
| | R | | | associated complex | | | | |
| | | | | alpha subunit [Homo | | | | |
| HPDWI 56 | HPDWI.56 | 1941 | blastx 2 | complement factor B | oblAAA16820.11 | %96 | 83 | 379 |
| 200 | - | | 210000 | | 1 2 2 2 2 2 2 2 1 | | | |

| 770 | 145 | 468 | 999 | 468 | 379 | 95 | 377 | 528 | 535 | 343 | | 342 | | 321 | | 503 | | | 650 | 694 | 750 | | 8/9 | 757 |
|--------------|-----|-----------------|----------------|--|---------------|-----------------------------|----------------------|--------------|-----|----------------|-------------------------------------|--------------------|--------|-----------------|--|----------------|------------------|----------------|-------------------|---------------|--------------------|---------|-------------------|----------------------|
| 099 | 83 | 4 | 468 | 94 | 11 | m | 54 | 379 | 416 | 44 | | 37 | | 22 | | n | | | 99 | 620 | 697 | | 58 | 662 |
| %68 | 38% | 100% | %99 | %05 | 73% | %88 | %86 | %99 | 45% | <i>%L6</i> | | 100% | | %26 | | 100% | | | %68 | 100% | 83% | | %86 | .%29 |
| | | dbj BAA01374.2 | | gb AAA60287.1 | gb AAA36033.1 | | emb CAA73041.1 | | | emb CAB42441.1 | | emb CAA49288.1 | | dbj BAA08226.1 | | dbj BAA01186.1 | | | gb AAB87479.1 | | , | | gb AAC48718.1 | |
| Homo sapiens | | p67 myc protein | [Homo sapiens] | ribosomal protein S6 [Homo sapiens] | cell surface | glycoprotein [Homo sapiens] | 5S ribosomal protein | Mus musculus | | (AL049783) | hypothetical protein [Homo sapiens] | cpn10 protein [Bos | taurus | unknown product | specific to adipose tissue [Homo sapiens] | alanine | aminotransferase | [Homo sapiens] | (AF033095) testis | enhanced gene | transcript protein | [Homo 1 | 90-kDa heat shock | protein [Sus scrofa] |
| | | blastx.2 | • | blastx.2 | blastx.2 | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | | | blastx.2 | ٠ |
| | | 1943 | | 1944 | 1945 | | 1948 | | | 1949 | | 1950 | | 1951 | | 1952 | • | | 1953 | | | | 1954 | |
| R | | HPDWN46 | R | HPDWN65 R | HPDWN69 | R | HPDWO50 | 8 | | HPDW061 | R | HPDWO82 | K | HPDWS61 | × | HPDWT55 | צ | | HPDWT56 | R | | | HPDWU47 | X |
| | | HPDWN46 | | HPDWN65 HPDWN65 | HPDWN69 | | HPDWO50 | | | HPDW061 | | HPDW082 | | HPDWS61 | | HPDWT55 | | | HPDWT56 | | | | HPDWU47 HPDWU47 | |

| 726 | 624 | 636 | 595 | 657 | 370 | 403 | 485 | 308 | 121 | 306 | 175 | 258 | | 105 | 9 | | 337 | 586 | 498 | 247 | 999 | 139 | 121 |
|-------------------|-------------------|-------------------------------|--------------------|----------------|--|----------------|--|----------------|---------|-----|--------------------|------------------|---------|---|--------------------|--------------------------------|------------------------|-------------------------|----------------|-----|-----|----------------|------------------------|
| 1 | | | 176 | 298 | 2 | 260 | 405 | 123 | 7 | 238 | 2 | 178 | | , | 143 | | 2 | 7 | 169 | П | 342 | . 2 | 2 |
| 94% | 37% | 27% | 93% | 80% | 100% | %16 | %88 | 77% | 87% | 47% | % <u>9</u> 8 | 100% | | 85% | 78% | | %98 | %86 | 20% | 46% | 45% | %08 | %99 |
| dbj BAA08451.1 | | | gb AAF36149.1 AF1 | 51063_1 | emb CAA30535.1 | emb CAB43181.1 | | emb CAA24031.1 | - | | dbj BAA07296.1 | | | pir C59153 C59153 | dbj BAA92096.1 | | gb AAD03467.1 | - - | | | | emb CAA24030.1 | |
| protein disulfide | isomerase-related | protein (PDIR) [Homo sapiens] | (AF151063) HSPC229 | [Homo sapiens] | cytokeratin 15 (AA 1 - 456) [Homo sapiens] | (AL031670) | dJ681N20.2 (similar to FTI I (ferritin light 1 | ATPase 6 [Homo | sapiens | 1 | NADH dehydrogenase | subunit 4L [Homo | sapiens | cytochrome-c oxidase (EC 1.9.3.1) chain I - western lowland 1 | (AK002129) unnamed | protein product [Homo sapiens] | translation initiation | factor 3 47 kDa subunit | [Homo sapiens] | | | URF AGL (NADH | dehydrogenase subunit) |
| blastx.2 | - | | blastx.2 | | blastx.2 | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | blastx.2 | | blastx.2 | | | , | | blastx.2 | |
| 1955 | | | 1956 | | 1957 | 1962 | | 1963 | | | 1965 | | | 1968 | 1969 | | 1970 | • | | | | 1971 | |
| HPDWU55 | R | | HPDWU60 | R | HPDWU63 R | HSCPJ17R | | HSDIA22R | | | HSDIX73R | | | HSDZJ21R | HSIFF84R | | HSKJR50R | | | | | HSLHT27R | |
| HPDWUSS HPDWUSS | | | HPDWU60 | | HPDWU63 | HSCPJ17 | | HSDIA22 | | | HSDIX73 | | | HSDZJ21 | HSIFF84 | | HSKJR50 | | | | | HSLHT27 | |

| | | | | [Homo sapiens] | | | | |
|---------|----------|------|----------|---|-------------------|-------------|-----|-------------|
| HSODB16 | HSODB16R | 1972 | blastx.2 | cytochrome oxidase subunit II [Homo sapiens] | gb AAA20843.1 | 93% | - | 651 |
| | HSPSB24R | 1973 | blastx.2 | (AF076191) gamma- actin [Trichosurus vulpecula] | gb AAC26520.1 | %06 | 61 | 732 |
| HSPSB70 | HSPSB70R | 1974 | blastx.2 | BBC1 [Homo sapiens] | emb CAA45963.1 | 100% | 3 | 539 |
| HSPSB74 | HSPSB74R | 1975 | blastx.2 | WT1 [Xenopus laevis] | dbj BAA11522.1 | %86 | 1 | 162 |
| HSPSB80 | HSPSB80R | 1976 | blastx.2 | unc-18homologue [Homo sapiens] | dbj BAA19482.1 | %76 | 2 | 691 |
| HSPSC30 | HSPSC30R | 1977 | blastx.2 | cell surface | gb AAA36033.1 | 91% | 124 | 318 |
| | | | | glycoprotein [Homo | | 83% | 4 | 180 |
| | | | | sapiens | | 100% | 309 | 374 |
| HSPSE86 | HSPSE86R | 1978 | blastx.2 | (ÁF161507) HSPC158 | gb AAF29122.1 AF1 | 91% | . 3 | 338 |
| | | | | [Homo sapiens] | 61507_1 | 62% | 302 | L 99 |
| | | | | | | 24% | 477 | 626 |
| HSPSG03 | HSPSG03R | 6/61 | blastx.2 | protein phosphatase 2A 65 kDa regulatory | emb CAA84414.1 | 100% | 3 | 191 |
| | | | | subunit, alpha isoform [Sus scrofa] | , | | | |
| HSPSG13 | HSPSG13R | 1980 | blastx.2 | protein p68 (AA 1-614) | emb CAA33751.1 | %56 | 221 | 739 |
| | | | | [Homo sapiens] | | 16% | 738 | 788 |
| HSPSG42 | HSPSG42R | 1861 | blastx.2 | (AF056490) cAMP- | gb AAC39763.1 | %86 | 3 | 554 |
| | | | | phosphodiesterase 8A | | | | |
| | | | | [Homo sapiens] | | | - | |
| HSPSG50 | HSPSG50R | 1982 | blastx.2 | (AB036829) skeletal | dbj BAA92340.1 | %08 | 132 | 578 |
| 1 | | | | ו ווווחסליט שונה סיספחווו | | | | |

| | | 645 | 200 | | 772 | | | 404 | 498 | 683 | 821 | | 755 | | 346 | 749 | | 432 | 592 | 632 | 339 | 100 | 175 | | 385 | 537 | 545 |
|-------------------|----------------------------|-------------------|-------------------|--------------|----------------------|-------------|------------------------|-----------------------|-----------------------|----------|----------------------|----------------|----------------------|----------------|-----------------------|------------------|------------------------|----------------------|-----|-----|---------------|---------|-----------------|----------------|------------------|-----------|------------------|
| | | 106 | 629 | | 89 | | | 129 | 367 | 480 | 96 | | . 3 | | 7 | 099 | | 26 | 410 | 561 | 7 | , | 9 | | 2 | 385 | 402 |
| | | % <i>L</i> 6 | %99 | | 87% | | | %46 | %56 | %69 | %88 | | %68 | | 91% | 24% | | %76 | %86 | 20% | 100% | | 100% | | %66 | 21% | . 47% |
| | | gb AAC31959.1 | | | dbj BAA36501.1 | | | emb CAA32847.1 | | | gb AAA60289.1 | | gb AAA85654.1 | | gb AAA35531.1 | | | dbj BAA05679.1 | | | gb AAA91461.1 | | gb AAD02337.1 | - | sp[P27361[MK03_H | UMAN | |
| enriched inositol | phosphatase [Homo sapiens] | (AF081484) alpha- | tubulin isoform 1 | Homo sapiens | (AB015610) ribosomal | protein S4X | [Chlorocebus aethiops] | SP-40,40 prepropetide | (AA -22 to 427) [Homo | sapiens] | ribosomal protein S6 | [Homo sapiens] | ribosomal protein L5 | [Homo sapiens] | medium tumor antigen- | associated 61-kD | protein [Homo sapiens] | BST-2 [Homo sapiens] | | | UbcH5C [Homo | sapiens | (AF044671) MM46 | [Homo sapiens] | MITOGEN- | ACTIVATED | PROTEIN KINASE 3 |
| | | blastx.2 | | | blastx.2 | | • | blastx.2 | , | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | : |
| | | 1983 | | | 1984 | | | 1985 | | | 1986 | | 1987 | | 1988 | | | 1989 | | | 1990 | 1 | 1991 | | 1992 | | • |
| | | HSPSG89R | | | HSPSH39R | | | HSPSH41R | | | HSPSH49R | | HSPSI65R | | HSPSJ71R | | • | HSPSJ72R | | | HSPSQ22R | | HSPSQ57R | | HSPSY67R | | |
| | | HSPSG89 | | | HSPSH39 | | | HSPSH41 | | | HSPSH49 | | HSPSI65 | | HSPSJ71 | | | HSPSJ72 | | | HSPSQ22 | | HSPSQ57 | | HSPSY67 | عدده | |

| | | | | (EC 2.7.1) 1 1 1 | | | | |
|-----------------|-------------------|------|----------|-------------------------|----------------|------|-----|----------|
| HSPSZ69 | HSPSZ69R | 1993 | blastx.2 | unnamed protein | emb CAB69291.1 | %86 | 2 | 283 |
| | | | | product [unidentified] | | %06 | 285 | 317 |
| HSPTA57 | HSPTA57R | 1994 | blastx.2 | scar protein [Homo | gb AAA36597.1 | 64% | 337 | 735 |
| | | | • | sapiens | | 100% | 318 | 338 |
| HSPTN57 | HSPTN57R | 1995 | blastx.2 | (AB015610) ribosomal | dbj BAA36501.1 | 25% | 2 | 157 |
| , | | | | protein S4X | | 37% | 178 | 360 |
| | | | | [Chlorocebus aethiops] | | 53% | 356 | 400 |
| HSSDM17 | HSSDM17 | 1996 | blastx.2 | (AL137714) | emb CAB70887.1 | 94% | 55 | 210 |
| | | | | hypothetical protein | | | | |
| | | | | [Homo sapiens] | | | | |
| HTLCU84 | HTLCU84R | 2001 | blastx.2 | RNA polymerase II | emb CAA87392.1 | 71% | 185 | 541 |
| | | | | elongation factor-like | | | | |
| | | | | protein [Homo sapiens] | | | | |
| HTSHG06 | HTSHG06R | 2002 | blastx.2 | URF 2 (NADH | emb CAA24027.1 | %18 | 107 | 364 |
| | | | | dehydrogenase subunit) | | 94% | | 105 |
| | | | | [Homo sapiens] | | | | |
| HULAP70 | HULAP70R | 2002 | blastx.2 | cytochrome c oxidase | gb[AAA99313.1] | 100% | 251 | 349 |
| | | | | subunit VIII precursor | | | | |
| | | | | [Homo sapiens] | | | | |
| HUSGA11 | HUSGA11 | 2006 | blastx.2 | carbonate dehydratase | emb CAA59331.1 | 63% | 220 | 471 |
| | R | | | [Homo sapiens] | | 100% | 183 | 218 |
| HUVFA39 | HUVFA39 | 5000 | blastx.2 | extensin [Volvox | emb CAA46283.1 | 34% | 460 | 92 |
| | 몺 | | | carteri] | | 34% | 436 | % |
| HVCAA31 HVCAA31 | HVCAA31 | 2010 | blastx.2 | myosin regulatory light | gb AAA67367.1 | %86 | 103 | 618 |
| | R | | | chain [Homo sapiens] | | | | |
| HVCAA37 | HVCAA37 HVCAA37 | 2011 | blastx.2 | complement factor B | gb AAA16820.1 | %96 | 322 | 289 |
| | R | | | [Homo sapiens] | | %88 | 3 | 137 |
| HVCAA94 | HVCAA94 | 2013 | blastx.2 | F-1-ATPase beta- | gb AAA30395.1 | 95% | 1 | 435 |
| | 1 | | | | | | | |

| 0 643 | 512 | | 6 644 | 664 | 3 288 | 60 794 | | \perp | 710 / 10 | | 1 333 | | , | | | 687 739 | | | | | | | 5 430 | | 19 291 | \perp | | 758 |
|------------------------|--------|--------------------|----------|-----------------------|------------------|------------------|--------------------|---------------------|--------------------|-----------------------|-------------------|-----------|-------------------|-----------------|----------|----------------|-----------------|-------------------|---------------|----------|------------------|---------------------|----------------------|----------|-------------------------|--------------|-------------------------|----------------|
| 6 440 | 6 489 | | 6 486 | 986 | 6 133 | | | | | | ,, | 6 330 | -; | | | | | | | | | | 6 305 | | | | | 7 |
| 20% | 100% | %9 <i>L</i> | %29 | %76 | %88 | %68 | ÷ | 000 | 2070 | | %86 | 70% | | , | | %66 | | | | | %29 | %98 | 38% | | 72% | | %66 | 70/ |
| | | emb CAA66609.1 | | emb CAA55946.1 | | dbj BAA02656.1 | | 11.:ID A A 02401 11 | apparantal l | | gb AAA52496.1 | - | | | | emb CAB38627.1 | | | | | dbj BAA01569.1 | | | | emb CAA55341.1 | | gb AAA36161.1 | |
| subunit precursor [Bos | taurus | calcyphosine [Homo | sapiens] | 40S ribosomal protein | S12 [Sus scrofa] | human homolog of | DnaJ protein [Homo | Sapiens | numan nomologue or | rat ribosomal protein | glyceraldehyde 3- | phosphate | dehydrogenase (EC | 1.2.1.12) [Homo | sapiens] | (AL022721) | dJ109F14.2 (60S | Ribosomal Protein | RPL10A) [Homo | sapiens] | diphtheria toxin | receptor associated | protein [Chlorocebus | aethiops | translin [Homo sapiens] | • | laminin-binding protein | Tromp comional |
| | | blastx.2 | | blastx.2 | | blastx.2 | | 1-14 | Diastx.2 | | blastx.2 | | ٠ | | | blastx.2 | | | | | blastx.2 | | | | blastx.2 | • | blastx.2 | |
| | | 2014 | | 2015 | | 2016 | | 0100 | 7010 | | 2019 | | | | | 2020 | | | | | 2021 | | | | 2022 | | 2023 | |
| R | | HVCAB02 | R | HVCAB03 | R | HVCAB18 | <u>ي</u> | 2000 | HVCAB32 | ഷ | HVCAB57 | | | | | HVCAB88 | 씸 | | | | HVCAC42 | ~ | | | | ا | HVCAE01 | ٩ |
| | | HVCAB02 | | HVCAB03 | | HVCAB18 | | 03040781 | HVCAB32 | | HVCAB57 | | | | | HVCAB88 | | | | | HVCAC42 | | | | HVCAD52 | 1 | HVCAE01 HVCAE01 | _ |

| 695 | 487 554 | 707 | | 551 | 599 | 657 | | 294 | 340 | 407 | | 375 | _ | | | | 559 | 537 | | | 405 | 469 | 210 | |
|-----------------------------------|--------------------------------------|---------------|--------------------|----------------------|---------------------|-----------------------|----------------|-----------------|----------|----------------------|----------------|--------------------|-----------------------|-----------------------|--------------|------------|-------------------------|--------------------|-----------------------|---------|----------------------|-----------------------|------------------|--------------------|
| 3 | 86 489 | 75 | | 3 | 63 | 577 | | 1 | 299 | 3 | | 130 | | | | | 2 | 88 | | | 26 | 404 | 34 | |
| 91% | 97% 90% | 74% | | %66 | %96 | 62% | | %06 | 92% | %16 | | 100% | | - | - | | %08 | %66 | | | 100% | 81% | 100% | |
| gb AAA59705.1 | dbj BAA00656.1 | gb AAA85332.1 | | emb CAA37139.1 | gb[AAB86485.1] | | | emb CAA68392.1 | | emb CAA51839.1 | | gb AAC32530.1 | | | | | emb CAA66904.1 | dbj BAA91172.1 | | | dbj[BAA88568.1 | | gb AAC63516.1 | |
| lymphocyte antigen [Homo sapiens] | proteasome subunit C2 [Homo sapiens] | complement | component C3 [Homo | ribosomal protein L7 | (AF030249) nutative | dienoyl-CoA isomerase | [Homo sapiens] | precursor [Homo | sapiens | ribosomal protein L3 | [Homo sapiens] | (AF008304) protein | inhibitor of neuronal | nitric oxide synthase | [Oryctolagus | cuniculus] | sortilin [Homo sapiens] | (AK000449) unnamed | protein product [Homo | sapiens | (AB036060) ubiquitin | [Oncorhynchus mykiss] | (AF073298) small | EDRK-rich factor 2 |
| blastx.2 | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | | | | blastx.2 | blastx.2 | | | blastx.2 | , | blastx.2 | : |
| 2024 | 2025 | 2026 | | 2027 | 2029 | ì | | 2030 | | 2031 | | 2032 | | | | | 2034 | 2035 | | | 2036 | | 2037 | |
| HVCAE15 R | HVCAE22 R | HVCAE56 | 8 | HVCAG56 | HVCAH03 | R | | HVCAH17 | ~ | HVCAH56 | R | HVCAI08R | | | | | HVCAI79R | HVCAJ27R | | | HVCAJ81R | | HVCAJ95R | - |
| HVCAE15 HVCAE15 | HVCAE22 | HVCAE56 | | HVCAG56 HVCAG56 | HVCAH03 | | | HVCAH17 | | HVCAH56 | | HVCAI08 | | | | | HVCAI79 | HVCAJ27 | | | HVCAJ81 | | HVCAJ95 | |

| | : . | | | [Homo sapiens] | | | | |
|-----------------|-------------------|------|----------|-----------------------------|----------------|------|---------|-----|
| HVCAK02 | HVCAK02 | 2038 | blastx.2 | hnRNP-E2 [Homo | emb CAA55015.1 | %68 | 06 | 467 |
| | 8 | | • | sapiens] | | %06 | 3 | 92 |
| HVCAL06 HVCAL06 | HVCAL06 | 2039 | blastx.2 | 23 kD highly basic | emb CAA40254.1 | %96 | 3 | 308 |
| | 씸 | | | protein [Homo sapiens] | | 30% | 302 | 529 |
| | | | | | | 39% | 432 | 554 |
| HVCA017 | HVCAO17 HVCAO17 R | 2040 | blastx.2 | Nm23 protein [Homo sapiens] | emb CAA35621.1 | %02 | 4 | 531 |
| HVCA063 HVCA063 | HVCA063 | 2041 | blastx.2 | similar to tubulin | emb CAA85463.1 | %91 | 82 | 276 |
| | 2 | | | alpha-2 chain | | 72% | 569 | 322 |
| | | | | [Caenorhabditis | ٠. | 47% | 342 | 410 |
| | | | | elegans] | | | | |
| HVCAP89 | HVCAP89R | 2042 | blastx.2 | CTP synthetase | gb AAB17729.1 | %88 | 69 | 512 |
| | | | | homolog [Mus | | %19 | 209 | 643 |
| | | | | musculus] | | 29% | 520 | 699 |
| | | | | • | | %08 | 681 | 710 |
| HVCAQ53 HVCAQ53 | HVCAQ53 R | 2043 | blastx.2 | RPS16 [Homo sapiens] | gb AAA60583.1 | 100% | 43 | 480 |
| HVCAR87 | HVCAR87 | 2045 | blastx.2 | glyceraldehyde 3- | gb AAA52496.1 | 74% | 54 | 536 |
| | ~ | | | phosphate | | | 1 | |
| | | | | dehydrogenase (EC | | | | |
| | | | | 1.2.1.12) [Homo | | | | |
| | | | | sapiens | | | | |
| HVCAS08 | HVCAS08R | 2046 | blastx.2 | triose-phosphate | gb AAA35438.1 | 74% | 77 | 96/ |
| | | | | isomerase [Pan | | 25% | 609 | 803 |
| | | | | troglodytes] | | | | |
| HVCAS52 | HVCAS52R | 2047 | blastx.2 | proteasome subunit C8 | dbj BAA00659.1 | 94% | | 579 |
| | | | | [Homo sapiens] | | | | |
| HVCAU64 | HVCAU64 | 2049 | blastx.2 | 23 kD highly basic | emb CAA40254.1 | %26 | 57 | 401 |

| | 196 | 153 | 107 | 431 | 236 | 989 | 524 | 594 | 478 | 325 | 725 | 629 | 237 | 572 | 535 | 627 | 343 | 647 | 699 | 559 | 256 | | | 363 | 0%0 | | 454 | 648 |
|------------------------|--------------------|-----------------------|----------|-----------------------|------------------------|-----------------|---------|-----|-----|--------------------|------------------------|-----|-----------------------|------------------------|--------|-----|--------------------|------------------------|-----|-----|-------------------------|----------------------|-----------------------|----------|--------------------|------------------------|---------------|-----------------------|
| | 396 | 215 | 139 | 24 | 9 | 274 | 483 | 517 | 452 | 41 | 999 | 290 | 43 | 300 | 353 | 553 | 99 | 327 | 328 | 482 | 23 | | | 1 | 47 | | . 206 | 454 |
| | %65 | %9/ | %06 | %08 | 85% | 41% | 71% | 45% | %88 | %8/ | 20% | 20% | %96 | 37% | 47% | 40% | %06 | 53% | 45% | 43% | %09 | | | , 000 | %66 | | 92% | 28% |
| | dbj BAA91131.1 | | | gb AAA19815.1 | gb AAA74897.1 | | | | | emb CAA40254.1 | | | gb AAD56406.1 AF1 | 84170 1 | 1 | | emb CAA40254.1 | | | - | dbj BAA06395.1 | | | | emb CAA40254.1 | | gb AAA97405.1 | |
| protein [Homo sapiens] | (AK000385) unnamed | protein product [Homo | sapiens] | ribosomal protein L27 | neurofibromatosis type | 1 protein [Homo | sapiens | 1 | | 23 kD highly basic | protein [Homo sapiens] | | (AF184170) elongation | factor 1-alpha [Sparus | aurata | 1 | 23 kD highly basic | protein [Homo sapiens] | | | neurofibromatosis type- | 1-GTPase activating- | protein type III [Mus | mnscnlns | 23 kD highly basic | protein [Homo sapiens] | AICÁR | formyltransferase/IMP |
| | blastx.2 | | | blastx.2 | blastx.2 | | | | | blastx.2 | | | blastx.2 | | | | blastx.2 | | | | blastx.2 | | | | blastx.2 | | blastx.2 | |
| : | 2050 | | | 2051 | 2053 | | | | | 2054 | | | 2055 | | | | 2056 | | | | 2057 | | | | 2058 | | 2060 | |
| R | HVCBD18 | | | HVCBE76R | HVCBF38R | | | | | HVCBF89R | | | HVCBG01 | R | | | HVCBQ31 | R | | | HVCCA08 | R | | | HVCCK34 | R | HVCCV93 | R |
| | HVCBD18 | | | HVCBE76 | HVCBF38 | | | | | HVCBF89 | | | HVCBG01 | | | | HVCBQ31 | , | | | HVCCA08 | | | | HVCCK34 | | HVCCV93 | |

| 674 | 459 | 341 | 618 | 640 | | 700 | 401 | 267 | 61 | 347 | 379 | | | | 326 | | | | | 245 | | | 304 | 383 | 45 |
|---|---------------------|------------------------|----------------|---|---------|------------------------|-----|-----|-----|-----|-----------------|-------------------|-----------|-----------------------|-----------------|----------------|-------------|-----------------|----------|-----------------|----------------------|----------------|-----------------------|------------------|---------|
| 564 | 61 | C) | 343 | 7 | | 215 | 78 | 61 | 7 | 294 | 59 | | | | 111 | | | | | 54 | | | 32 | 303 | 7 |
| %65 | %86 | %56 | 63% | %86 | | 39% | 40% | 36% | %59 | 38% | 47% | | | | 91% | | | | | %18 | | • | %86 | %88 | 61% |
| | emb CAA40626.1 | gb AAB58251.1 | | emb CAA93540.1 | | pir A93131 MHDG | | | | | gb[AAB88484.1] | | | | emb CAA04865.1 | | | | | emb CAB43277.1 | | | emb CAA34066.1 | | |
| cyclohydrolase bifunctional enzyme [Homo sapiens] | 1-8U [Homo sapiens] | similar to mouse Int-6 | [Homo sapiens] | 3-methyl-adenine DNA glycosylase [Homo | sapiens | Ig mu chain C region - | dog | | | | (AF035421) | glyceraldehyde 3- | phosphate | dehydrogenase [Ovis 1 | (AJ001612) L-3- | phosphoserine- | phosphatase | homologue [Homo | sapiens] | (AL050109) | hypothetical protein | [Homo sapiens] | ribosomal protein L31 | (AA 1-125) [Homo | sapiens |
| | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | | | | blastx.2 | | | | blastx.2 | _ | | | | blastx.2 | | | blastx.2 | | |
| | 2062 | 2063 | | 2064 | | 2066 | | | | | 2067 | | • | | 2069 | | | | | 2071 | | | 2072 | | |
| | HVCDD19 HVCDD19 R | HVCDF50R | | HVCDH77 R | | HVVAB37 | R | | | | HVVAC18 HVVAC18 | 8 | | • | HVVAE73 | ጸ | | | | HVVAH91 | R | | HVVAI03R | | |
| | HVCDD19 | HVCDF50 | | HVCDH77 HVCDH77 | | HVVAB37 | | | | | HVVAC18 | | | | HVVAE73 | | | | | HVVAH91 HVVAH91 | | | HVVAI03 | • | |

| 563 | • | | 746 | 769 | 370 | | 471 | | 413 | | 444 | 601 | 503 | 436 | | | 206 | | | 519 | | 562 | 618 | 479 | 234 | 601 | 413 |
|----------------|--------------------|---------|----------------------|------------------------|-----------------|------------------------|------------------|-----------------------|-----------------------|----------------|--------------------|------------------------|-----|------------------|--------------------|-----------|--------------------|-----------------------|---------|--------------------|------------------------|--------------------|--------|----------------------|-------------------------|---------|-----------------------|
| 6 | | | 3 | 707 | 14 | | 157 | | 6 | | 7 | 272 | 447 | 2 | | | 3 | | | 1 | | 32 | 577 | 156 | 40 | 419 | 6 |
| %08 | | | %96 | 61% | 94% | <u> </u> | 81% | | %66 | | 74% | %95 | 78% | %66 | | | %68 | | | 74% | | %69 | 92% | 81% | %96 | 52% | %66 |
| gb AAA02915.1 | | | gb AAA58487.1 | | emblCAA03726.11 | | emb CAA01645.1 | | gb AAA60284.1 | | emb CAA40254.1 | | | emb CAA43140.1 | | | dbj BAA91922.1 | | | dbj BAA00061.1 | | gb AAA02914.1 | - - | dbj BAA34291.1 | | | gb AAA60284.1 |
| immunoglobulin | lambda-chain [Homo | sapiens | v-fos transformation | effector protein [Homo | unnamed protein | product [unidentified] | phospholipase A2 | [synthetic construct] | ribosomal protein S17 | [Homo sapiens] | 23 kD highly basic | protein [Homo sapiens] | | gamma non-muscle | actin [Oryctolagus | canicalus | (AK001810) unnamed | protein product [Homo | sapiens | Na,K-ATPase alpha- | subunit [Homo sapiens] | IgG [Homo sapiens] | 1 | (AB014876) robosomal | protein L13 [Cricetulus | griseus | ribosomal protein S17 |
| blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 |
| 2073 | | | 2077 | | 2079 | \ : : | 2080 | | 2082 | | 2083 | | | 2084 | | | 2085 | | | 2087 | | 2088 | | 2089 | • | | 2090 |
| HVVAJ23R | | | HVVAK46 | Я | HVVAK85 | R | HVVAL81 | 씸 | HVVAS27 | RP00B | - | ~ | | HVVBD91 | RP00B | _ | HVVBF09R | | | HVVBH88 | 8 | HVVBI16R | | HVVBJ08R | | | HVVBJ55R |
| HVVAJ23 | | | HVVAK46 | | HVVAK85 | | HVVAL81 | | HVVAS27 | | HVVAW2 | | | HVVBD91 | | | HVVBF09 | | | HVVBH88 | | HVVBI16 | - | HVVBJ08 | | | HVVBJ55 |

| | 618 | 713 | 733 | 623 | | 481 | | 334 | 491 | | 86 | | | 484 | 609 | 603 | 735 | | | 325 | 203 | 640 | | |
|----------------|------------------|-----------------------|---------------------------|----------------|--------------------------------------|----------------------|---------------------|----------------|--------------------|----------------|------------------|---------|-------------|----------------------|----------------|------------|------------------|-----------------------|---------------------------|----------------------|----------------|-----------------|----------------------|----------|
| | 73 | 633 | 617 | 12 | | 11 | - | 20 | 318 | | 448 | | | 65 | 478 | 487 | 73 | | | 206 | 144 | 08 | | |
| | %88 | 62% | 43% | %89 | | 82% | - | %89 | %19 | | 100% | | | %69 | 70% | 30% | %9 <i>L</i> | _ | | 72% | 85% | %96 | | • |
| | dbj BAA82102.1 | | | emb CAA75033.1 | | gb AAA98800.1 | | emb CAA40958.1 | - | | sp Q16465 YZA1_H | UMAN | | emb[CAA01549.1] | | | dbj BAA82102.1 | | | dbj BAA31542.1 | | gb AAA56823.1 | | |
| [Homo sapiens] | (AB022653) anti- | Entamoeba histolytica | immunoglobulin kappa 1 | immunoglobulin | lambda light chain [Homo sapiens] | immunoglobulin heavy | chain VH-III region | immunoglobulin | lambda light chain | [Homo sapiens] | HYPOTHETICAL | PROTEIN | (FRAGMENT). | heavy chain antibody | 3D6 [synthetic | construct] | (AB022653) anti- | Entamoeba histolytica | immunoglobulin kappa 1 | (AB005894) ecalectin | [Homo sapiens] | glutathione S- | transferase-pi [Homo | sapiens] |
| | blastx.2 | | | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | | blastx.2 | | blastx.2 | | |
| | 2091 | | | 2092 | | 2093 | | 2094 | | | 2096 | | | 2098 | | | 2099 | | | 2100 | | 2102 | | |
| P00B | HVVBK13 | R | | HVVBO65 | R | HVVBO88 | X | HVVBR70 | RP00B | | HVVBT60 | R | | HVVCB04 | | | HVVCB08 | R | | HVVCC06 HVVCC06 | R | HVVCD81 | R | |
| | HVVBK13 HVVBK13 | | | HVVBO65 | | HVVBO88 | | HVVBR70 | | | HVVBT60 | | | HVVCB04 | | | HVVCB08 | | | HVVCC06 | | HVVCD81 HVVCD81 | | |

| 748 | 214 | 467 | 375 | 384 | 375 | 375 | 375 | 375 | 378 | 285 | 387 | 378 | 399 | 725 | 349 | 573 | 773 | 240 | 350 | | | 405 | |
|---|------------------------------|--|--------------------|----------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----------------|----------------|-----|-----|------------------|---------------------|----------------|--------------------|-----------------------------------|
| 86. | 2 | 114 | | - | | 19 | 19 | 19 | . 19 | | 19 | 19 | 28 | 654 | 14 | 310 | 276 | 361 | 3 | | | 46 | |
| 82% | %46 | %48 | %56 | %59 | %99 | %59 | %69 | 93% | 52% | 93% | 47% | 44% | 44% | %02 | %16 | %86 | %09 | 25% | 100% | | | 100% | · |
| gb AAA36146.1 | gb AAA52493.1 | emb CAA37883.1 | emb CAA73697.1 | | | ٠ | | | | | | | | | gb AAC16046.1 | | | | gb AAA60078.1 | | | dbj BAA35182.1 | |
| type II mesothelial keratin K7 [Homo sapiens] | 80K-H protein [Homo sapiens] | immunoglobulin lambda light chain [Homo sapiens] | FB19 protein [Homo | sapiens] | | | | | | - | | | · | | (AF061034) FIP2 | [Homo sapiens] | | , | phosphoglycerate | kinase (EC 2.7.2.3) | [Homo sapiens] | (AB021288) beta 2- | microglobulin [Homo sapiens] |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | • | | | | | | | | | blastx.2 | | | | blastx.2 | | | blastx.2 | |
| 2104 | 2106 | 2107 | 2108 | _ | | | | | | | | | | | 2109 | | | | 2110 | | | 2111 | |
| HVVCD90 R | HVVCE65 R | HVVCF38R | HVVCG29 | R | | | | | | | | | | | HVVCG31 | R | | | HVVCG46 HVVCG46 | R | | HVVCG93 | К. |
| HVVCD90 HVVCD90 R | HVVCE65 | HVVCF38 | HVVCG29 HVVCG29 | | | | | | | | | | | | HVVCG31 HVVCG31 | | | | HVVCG46 | | | HVVCG93 HVVCG93 | |

| 350 | | 119 | 403 663 | 739 | 599 | 889 | 261 | 371 | | 248 | 307 | 336 | 339 | 583 | 775 | 284 | 378 | 407 | 286 | 87 |
|-----------------------|--|---|--|------------|-------------------|---------------------|-----------------------|----------------------|--------------|--------------------|-----------------------|-----|-----------------------------|------------------------|------------------------|-----------------|--------------------------------|------------------------------------|----------------------|-----|
| 3 | | E) | 382 | 644 | 3 | 599 | 1 | 273 | | 27 | 242 | 298 | 1 | 14 | 674 | 3 | 283 | €. | 89 | 4 |
| 100% | | 100% | %6 <i>L</i> | 75% | %96 | %08 | 94% | 87% | | 85% | 71% | 84% | %66 | 100% | 91% | %56 | 78% | %89 | %68 | 71% |
| gb[AAC82471.1] | | emb CAA68724.1 | emb CAA01550.1 | | pir PT0207 PT0207 | | gb AAB58776.1 | | | gb[AAA2021-7.1] | | | emb CAA77670.1 | gb AAA35682.1 | | gb AAC37563.1 | | emb CAA25086.1 | gb AAA64187.1 | |
| (AF104913) eukaryotic | protein synthesis initiation factor [Homo sapiens] | extracellular matrix protein BM-40 (AA 1 - 303) [Homo sapiens] | 3D6 antibody light chain [synthetic | construct] | Ig gamma chain C | region - chimpanzee | lysophosphatidic acid | acyltransferase-beta | Homo sapiens | Ig light chain VI1 | region [Homo sapiens] | | NuMA protein [Homo sapiens] | ribosmal protein small | subunit [Homo sapiens] | Immunoglobulin | lambda chain [Homo sapiens] | apoferritin H chain [Homo sapiens] | Hin-2 [Homo sapiens] | |
| blastx.2 | | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | | | blastx.2 | | | blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | blastx.2 | |
| 2112 | | 2113 | 2114 | | 2115 | | 2116 | | | 2118 | | | 2119 | 2120 | | 2121 | | 2122 | 2123 | |
| HVVCH28 | ద | HVVCI28R | HVVCI50R | | HVVCI85R | | HVVCJSIR | | | HVVCK78 | R | | HVVCL52 R | HVVCL73 | R | HVVCM67 | 8 | HVVCM84 HVVCM84 R | HVVCN20 | R |
| HVVCH28 HVVCH28 | | HVVCI28 | HVVCI50 | | HVVCI85 | | HVVCJ51 | | | HVVCK78 HVVCK78 | | | HVVCL52 HVVCL52 | HVVCL73 HVVCL73 | | HVVCM67 HVVCM67 | | HVVCM84 | HVVCN20 HVVCN20 | |

| 388 | 550 695 | 346 | 389 469 501 | 436 644 | 470 302 299 | 299 | 272 | 299 | 299 | 717 |
|---|--|---------------------------|---|--|--|-----|-------|-----|-----|------|
| 17 | 8 549 | 251 | 30 359 457 | 573 | 15 3 | | m m c | n m | 15 | l CI |
| 70% | 79% 48% | %96 | 90% 51% 93% | 52% 54% | 88% 50% 49% | 47% | 48% | 48% | 47% | 20% |
| gb AAA73002.1 | emb CAA01550.1 | gb AAC80170.1 | gb AAF12788.1 AF1 91829_1 | dbj BAA82518.1 | gb AAB69977.1 | · | | | · | |
| [Human Ig rearranged gamma chain mRNA, V-J-C region and complete cds.], gene product [Homo sapiens] | 3D6 antibody light chain [synthetic construct] | alpha SNAP [Homo sapiens] | (AF191829) heat-shock protein [Littorina plena] | (AB019120) seven transmembrane receptor [Rattus norvegicus] | (AC002528) alpha2(I) collagen [Homo sapiens] | : | | | | - |
| blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | | | | |
| 2125 | 2127 | 2128 | 2129 | 2130 | 2131 | • | | | | |
| HVVCN54 R | HVVCO13 R | HVVCO16 R | HVVCO87 R | HVVCP41R | HVVCP88R | | | | , | |
| HVVCN54 | HVVC013 | HVVC016 | HVVCO87 | HVVCP41 | HVVCP88 | | | | ٠. | |

| 272 | 302 | 278 | 272 | 272 | 302 | 272 | 314 | 272 | 305 | 299 | 299 | 299 | 302 | 302 | 272 | 299 | 272 | 302 | 272 | 272 | 272 | 278 | 272 | 299 | 299 | 299 | 272 | 302 | 299 |
|-----|-------------|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|----------|-----|
| 3 | 3 | 3 | 15 | Ω. | 18 | 33 | 18 | m | m | m | 3 | n | m | m | n | m | 27 | n | n | 18 | m, | 15 | m | n | 18 | 18 | n | m | 3 |
| 47% | 46% | 23% | 48% | 46% | 45% | 51% | 45% | 47% | 46% | 46% | 45% | 44% | 45% | 45% | 48% | 45% | 51% | 44% | 46% | 45% | 47% | 47% | 48% | 45% | 45% | 43% | 47% | 45% | 45% |
| | | - | | | | | | | | | | | | | | | | | | | | | | | | | | <u> </u> | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| _ | | | | | <u>.</u> | | | | | | | | | | | · | | | | | <u></u> | | | | | | | | |
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| | | | | | | | | | | | | <u>·</u> | | | _ | | | | | | | | | | | | | | • |
| | | | | | | | _ | | | | | | | | | | | | | | | | _ | | | | | | |
| | | | | | | | _ | | - | | | | • | | | | | | | | | | | | - | | | | |
| | | | | | | | _ | | | | | | | ; | | | | | | | | | | | - | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| _ | _ | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|----------------------|---------------|-----------------|------------------------|
| 272 | 299 | 272 | 272 | 299 | 272 | 302 | 299 | 272 | 272 | 299 | 272 | 272 | 299 | 299 | 302 | 480 | 969 | 629 | 669 | 293 | 217 | | 307 |
| 18 | 15 | 9 | 3 | 18 | m | m | m | 15 | m | m | 3 | 18 | c | n | 3 | 319 | 583 | 54 | 7 | 183 | 95 | | 65 |
| 48% | 45% | 42% | 44% | 43% | 48% | 42% | 43% | 44% | 43% | 43% | 43% | 46% | 43% | 43% | 41% | 38% | 43% | 76% | %68 | 91% | 100% | | 100% |
| | | | | | | | | | | | | | | | | | | gb AAC26520.1 | gb AAA36025.1 | emb CAA81626.1 | gb AAB69859.1 | · | dbj BAA04889.1 |
| | | | | | | | | | | | | | | | | | | (AF076191) gamma- actin [Trichosurus | 90kDa heat shock protein [Homo sapiens] | Rab5c protein [Canis | (AF015283) | selenoprotein W | ubiquitin-like protein |
| | | | | | | | | | | | | | | | | | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | | blastx.2 |
| | | | | | | | | | | | | | | | | | | 2133 | 2135 | 2136 | 2137 | | 2141 |
| | | | | | | | | | | | | | | | | | | HVVCQ49 R | HVVCQ93 | HVVCS28R | HVVCS32R | | HVVCUS0 HVVCUS0 |
| | | | | | | | | | | | | | | | | | | HVVCQ49 | HVVCQ93 | HVVCS28 | HVVCS32 | | HVVCU50 |

| 292 | 482 | 309 | 479 | 410 | - | 712 | 747 | 431 | 734 | 715 | | 511 | 555 | 716 | 763 | 620 | | 477 | 298 | 542 | |
|------------------------|-------------------------|----------------|-----|--------------------|--------------------------------|--------------------|-----|------|-----|-----------------|------------------------------------|--------------------|---------------------|---------------------|-------------------------|--------------------|--|--|--|----------------------------|----|
| 2 | 309 | 283 | 399 | 3 | | 7.1 | 418 | 354 | 654 | 2 | | 2 | 1 | 498 | 557 | 3 | | 394 | 2 | 423 | |
| 100% | 100% | %99 | 40% | 100% | | 54% | 20% | 100% | 51% | %16 | | %66 | %98 | 38% | 42% | %06 | | %96 | %86 | %56 | |
| dbj BAA31199.1 | | | | dbj BAA91151.1 | | gb AAB38382.1 | | | | emb CAB58438.1 | | dbj BAA23366.1 | gb AAA49700.1 | | ! | gb AAD29608.1 | | emb CAA32574.1 | gb AAA36443.1 | emb CAA63371.1 | |
| (AB010491) natriuretic | peptide A type receptor | [Homo sapiens] | | (AK000419) unnamed | protein product [Homo sapiens] | p48 [Homo sapiens] | 1 | | | immunoglobulin | gamma-2 heavy chain [Homo sapiens] | Hrs [Homo sapiens] | elongation factor-1 | alpha-chain protein | (EF-1-alpha) [Xenopus 1 | (AF113887) kappa 1 | immunoglobulin light chain [Homo sapiens] | ribosomal protein L34 [Rattus rattus] | phospholipid transfer protein [Homo sapiens] | UDP- GalNAc:polypeptide | N. |
| blastx.2 | | | | blastx.2 | | blastx.2 | | | | blastx.2 | | blastx.2 | blastx.2 | | | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | ٠ |
| 2142 | | | | 2144 | | 2146 | | | | 2147 | | 2148 | 2149 | | | 2150 | | 2151 | 2152 | 2153 | |
| HVVCV41 | R | | | HVVCW7 HVVCW75 | × | HVVCX46 HVVCX46 | R | | | HVVCY29 | ~ | HVVCY55 R | HVVCY60 HVVCY60 | R | | HVVCY62 | 24 | HVVCY75 HVVCY75 R | HVVCY77 R | HVVCZ18 R | |
| HVVCV41 HVVCV41 | | | | HVVCW7 | S | HVVCX46 | | | | HVVCY29 HVVCY29 | | HVVCY55 HVVCY55 | HVVCY60 | | | HVVCY62 HVVCY62 | - | HVVCY75 | HVVCY77 HVVCY77 | HVVCZ18 HVVCZ18 | |

| | 562 | 338 | 588 | 446 | 155. | 643 559 683 | 594 | 309 593 415 | 513 485 | 103 |
|---|--|----------------|--|---|--|---------------------------------------|--|------------------------------|----------------------|---|
| · | 20 | 81. | 541 | æ | 99 | 8 29 615 | 4 | 61 294 287 | 106 285 | 2 |
| | 85% | %08 | 62% | %86 | %96 · | 95% 25% 56% | %16 | 92% 39% 48% | 64% 56% | %16 |
| | gb AAC39746.1 | emb CAA09185.1 | | gb AAA35507.1 | gb AAC15863.1 | pir S03894 S03894 | emb CAA53625.1 | dbj BAA21839.1 | dbj BAA14105.1 | pir A24815 A24815 |
| acetylgalactosaminyltra nsferase (GalNAc-T3) [Homo sapiens] | (AF013622) immunoglobulin heavy chain variable region Homo 1 | (AJ010446) | inniunogioouiin kappa light chain [Homo sapiens] | adenylyl cyclase- associated protein [Homo sapiens] | (AF016365) hexokinase I [Homo sapiens] | ADP,ATP carrier protein T2 - human | Lon protease-like protein [Homo sapiens] | SM22 alpha [Homo sapiens] | destrin [Sus scrofa] | calpain (EC 3.4.22.17) large chain 1 - rabbit (fragments) |
| | blastx.2 | blastx.2 | | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 | blastx.2 |
| | 2156 | 2157 | | 2158 | 2159 | 2162 | 2163 | 2164 | 2165 | 2166 |
| | HVVDH44 R | HVVDM23 | ¥ | HVVDM31 R | HVVDM45 R | HVVDN29 R | HVVDN77 R | HVVDP70 R | HVVDQ46 R | HVVDQ49 R |
| | HVVDH44 | HVVDM2 | 2 | HVVDM3 1 | HVVDM4 5 | HVVDN29 | HVVDN77 | HVVDP70 | HVVDQ46 | HVVDQ49 HVVDQ49 R |

| 726 | 727 | 746 | 736 | 803 | 612 | 460 | | 200 | 229 | | | 511 | | 140 | | | 219 | |
|--|----------------------|------------------------------|----------------------|-----|--|-----------------|----------|--|---------------------|---------------------|------------------------------|--------------------|---|-------------------------|---|---|---|-------------------------|
| 91 | 74 | 069 | 08 | 989 | 121 | 2 | - | 3 | 2 | | | 23 | | 3 | | | 49 | |
| %68 | %56 | %89 | %88 | %29 | 72% | %86 | | %62 | %98 | <i>:</i> | | 84% | | %56 | | | %96 | |
| pir JE0244 JE0244 | emb[CAA52808.1] | | emb CAA57650.1 | | gb AAC17119.1 | emb CAA63212.1 | | emb CAA92321.1 | emb CAA00676.1 | | | gb AAD38038.1 AF1 | 49822_1 | gb AAB17381.1 | | | gb AAB00807.1 | |
| Ig kappa chain NIG2 precursor - human | gamma subunit of CCT | chaperonin [Homo sapiens] | hevin [Homo sapiens] | | (AF065388) tetraspan NET-1 [Homo sapiens] | ch-TOG [Homo | sapiens | retinoic acid induced gene E [Homo sapiens] | chimeric monoklonal | TSH antibody, gamma | cuain [synuneuc construct] | (AF149822) mitotic | checkpoint protein BUB3 [Mus musculus] | calpain II [Sus scrofa] | | | ZZ:beta-Gal' IgG- binding fusion protein | [unidentified cloning 1 |
| blastx.2 | blastx.2 | | blastx.2 | | blastx.2 | blastx.2 | ļ | blastx.2 | blastx.2 | | | blastx.2 | | blastx.2 | | | blastx.2 | |
| 2167 | 2168 | | 2169 | | 2171 | 2172 | | 2174 | 2175 | | | 2177 | | 2181 | | | 2183 | |
| HVVDS12 R | HVVDS21 | ≃ | HVVDS35 | R | HVVDT29 R | HVVDT44 | X | $ \begin{array}{c c} \text{HVVDW0} & \text{HVVDW02} \\ 2 & R \end{array} $ | HVVDW6 HVVDW61 | ~ | | HVVDX90 | R | HWLME48 | 4 | | HWMIB35 R | |
| HVVDS12 HVVDS12 | HVVDS21 | | HVVDS35 HVVDS35 | | HVVDT29 | HVVDT44 HVVDT44 | | HVVDW0 | 9MQAAH | 1 | | HVVDX90 | | HWLME4 | • | - | HWMIB35 HWMIB35 | |

| 1 300 | | | |
|----------------|--------------------------|---|--|
| 9 | | | |
| %56 | | | |
| emb CAB55274.1 | | | - |
| (AL035461) | dJ967N21.3 (novel | protein similar to | nredicted 1 |
| blastx.2 | | | |
| 2185 | | | |
| HWWEF90 | R | | |
| HWWEF9 | 0 | | |
| |) emb CAB55274.1 95% 61 | HWWEF90 2185 blastx.2 (AL035461) ,emb CAB55274.1 95% 61 R dJ967N21.3 (novel doored doored <t< td=""><td>HWWEF90 2185 blastx.2 (AL035461) .emb CAB55274.1 95% 61 R dJ967N21.3 (novel protein similar to protein similar to 1</td></t<> | HWWEF90 2185 blastx.2 (AL035461) .emb CAB55274.1 95% 61 R dJ967N21.3 (novel protein similar to protein similar to 1 |

[0048] Table 2 further characterizes certain encoded polypeptides of the invention, by providing the results of comparisons to protein and protein family databases. The first column provides a unique clone identifier, "Clone ID NO:", corresponding to a cDNA clone disclosed in Table 1. The second column provides the unique contig indentifier, "Contig ID:" which allows correlation with the information in Table 1. The third column provides the sequence identifier, "SEQ ID NO:X", for the contig polynucleotide sequences. The fourth column provides the analysis method by which the homology/identity disclosed in the row was determined. The fifth column provides a description of PFam/NR hits having significant matches identified by each analysis. Column six provides the accession number of the PFam/NR hit disclosed in the fifth column. Column seven, "Score/Percent Identity", provides a quality score or the percent identity, of the hit disclosed in column five. Comparisons were made between polypeptides encoded by polynucleotides of the invention and a non-redundant protein database (herein referred to as "NR"), or a database of protein families (herein referred to as "PFam"), as described below.

[0049] The NR database, which comprises the NBRF PIR database, the NCBI GenPept database, and the SIB SwissProt and TrEMBL databases, was made nonredundant using the computer program nrdb2 (Warren Gish, Washington University in Saint Louis). Each of the polynucleotides shown in Table 1, column 3 (e.g., SEQ ID NO:X or the 'Query' sequence) was used to search against the NR database. The computer program BLASTX was used to compare a 6-frame translation of the Query sequence to the NR database (for information about the BLASTX algorithm please see Altshul et al., J. Mol. Biol. 215:403-410 (1990), and Gish et al., Nat. Genet. 3:266-272 (1993)). A description of the sequence that is most similar to the Query sequence (the highest scoring 'Subject') is shown in column five of Table 2 and the database accession number for that sequence is provided in column six. The highest scoring 'Subject' is reported in Table 2 if (a) the estimated probability that the match occurred by chance alone is less than 1.0e-07, and (b) the match was not to a known repetitive element. BLASTX returns alignments of short polypeptide segments of the Query and Subject sequences which share a high degree of similarity; these segments are known as High-Scoring Segment Pairs or HSPs. Table 2 reports the degree of similarity between the Query and the Subject for each HSP as a

percent identity in Column 7. The percent identity is determined by dividing the number of exact matches between the two aligned sequences in the HSP, dividing by the number of Query amino acids in the HSP and multiplying by 100. The polynucleotides of SEQ ID NO:X which encode the polypeptide sequence that generates an HSP are delineated by columns 8 and 9 of Table 2.

The PFam database, PFam version 5.2, (Sonnhammer et al., Nucl. Acids [0050] Res., 26:320-322, (1998)) consists of a series of multiple sequence alignments; one alignment for each protein family. Each multiple sequence alignment is converted into a probability model called a Hidden Markov Model, or HMM, that represents the positionspecific variation among the sequences that make up the multiple sequence alignment (see, e.g., R. Durbin et al., Biological sequence analysis: probabilistic models of proteins and nucleic acids, Cambridge University Press, 1998 for the theory of HMMs). The program HMMER version 1.8 (Sean Eddy, Washington University in Saint Louis) was used to compare the predicted protein sequence for each Query sequence (SEQ ID NO:Y in Table 1) to each of the HMMs derived from PFam version 5.2. A HMM derived from PFam version 5.2 was said to be a significant match to a polypeptide of the invention if the score returned by HMMER 1.8 was greater than 0.8 times the HMMER 1.8 score obtained with the most distantly related known member of that protein family. The description of the PFam family which shares a significant match with a polypeptide of the invention is listed in column 5 of Table 2, and the database accession number of the PFam hit is provided in column 6. Column 7 provides the score returned by HMMER version 1.8 for the alignment. Columns 8 and 9 delineate the polynucleotides of SEQ ID NO:X which encode the polypeptide sequence which shows a significant match to a PFam protein family.

[0051] As mentioned, columns 8 and 9 in Table 2, "NT From" and "NT To", delineate the polynucleotides of "SEQ ID NO:X" that encode a polypeptide having a significant match to the PFam/NR database as disclosed in the fifth column of Table 2. In one embodiment, the invention provides a protein comprising, or alternatively consisting of, a polypeptide encoded by the polynucleotides of SEQ ID NO:X delineated in columns 8 and 9 of Table 2. Also provided are polynucleotides encoding such proteins, and the complementary strand thereto.

The nucleotide sequence SEQ ID NO:X and the translated SEQ ID NO:Y are sufficiently accurate and otherwise suitable for a variety of uses well known in the art and described further below. For instance, the nucleotide sequences of SEQ ID NO:X are useful for designing nucleic acid hybridization probes that will detect nucleic acid sequences contained in SEQ ID NO:X or the cDNA contained in Clone ID NO:Z. These probes will also hybridize to nucleic acid molecules in biological samples, thereby enabling immediate applications in chromosome mapping, linkage analysis, tissue identification and/or typing, and a variety of forensic and diagnostic methods of the invention. Similarly, polypeptides identified from SEQ ID NO:Y may be used to generate antibodies which bind specifically to these polypeptides, or fragments thereof, and/or to the polypeptides encoded by the cDNA clones identified in, for example, Table 1.

[0053] Nevertheless, DNA sequences generated by sequencing reactions can contain sequencing errors. The errors exist as misidentified nucleotides, or as insertions or deletions of nucleotides in the generated DNA sequence. The erroneously inserted or deleted nucleotides cause frame shifts in the reading frames of the predicted amino acid sequence. In these cases, the predicted amino acid sequence diverges from the actual amino acid sequence, even though the generated DNA sequence may be greater than 99.9% identical to the actual DNA sequence (for example, one base insertion or deletion in an open reading frame of over 1000 bases).

Accordingly, for those applications requiring precision in the nucleotide sequence or the amino acid sequence, the present invention provides not only the generated nucleotide sequence identified as SEQ ID NO:X, and a predicted translated amino acid sequence identified as SEQ ID NO:Y, but also a sample of plasmid DNA containing cDNA Clone ID NO:Z (deposited with the ATCC on June 5, 2000 and were given ATCC Deposit Nos. PTA-1982 and PTA-1985; and/or as set forth, for example, in Table 1, 6 and 7). The nucleotide sequence of each deposited clone can readily be determined by sequencing the deposited clone in accordance with known methods. Further, techniques known in the art can be used to verify the nucleotide sequences of SEQ ID NO:X.niques known in the art can be used to verify the nucleotide sequences of SEQ ID NO:X.

[0055] The predicted amino acid sequence can then be verified from such deposits. Moreover, the amino acid sequence of the protein encoded by a particular clone can also be directly determined by peptide sequencing or by expressing the protein in a suitable host cell containing the deposited human cDNA, collecting the protein, and determining its sequence.

RACE Protocol For Recovery of Full-Length Genes

Partial cDNA clones can be made full-length by utilizing the rapid [0056] amplification of cDNA ends (RACE) procedure described in Frohman, M.A., et al., Proc. Nat'l. Acad. Sci. USA, 85:8998-9002 (1988). A cDNA clone missing either the 5' or 3' end can be reconstructed to include the absent base pairs extending to the translational start or stop codon, respectively. In some cases, cDNAs are missing the start codon of translation. The following briefly describes a modification of this original 5' RACE procedure. Poly A+ or total RNA is reverse transcribed with Superscript II (Gibco/BRL) and an antisense or complementary primer specific to the cDNA sequence. The primer is removed from the reaction with a Microcon Concentrator (Amicon). The first-strand cDNA is then tailed with dATP and terminal deoxynucleotide transferase (Gibco/BRL). Thus, an anchor sequence is produced which is needed for PCR amplification. The second strand is synthesized from the dA-tail in PCR buffer, Taq DNA polymerase (Perkin-Elmer Cetus), an oligo-dT primer containing three adjacent restriction sites (XhoI, Sall and Clal) at the 5' end and a primer containing just these restriction sites. This double-stranded cDNA is PCR amplified for 40 cycles with the same primers as well as a nested cDNA-specific antisense primer. The PCR products are size-separated on an ethidium bromide-agarose gel and the region of gel containing cDNA products the predicted size of missing protein-coding DNA is removed. cDNA is purified from the agarose with the Magic PCR Prep kit (Promega), restriction digested with XhoI or Sall, and ligated to a plasmid such as pBluescript SKII (Stratagene) at XhoI and EcoRV sites. This DNA is transformed into bacteria and the plasmid clones sequenced to identify the correct protein-coding inserts. Correct 5' ends are confirmed by comparing this sequence with the putatively identified homologue and overlap with the partial cDNA clone. Similar methods known in the art and/or commercial kits are used to amplify and recover 3' ends.

Several quality-controlled kits are commercially available for purchase. Similar reagents and methods to those above are supplied in kit form from Gibco/BRL for both 5' and 3' RACE for recovery of full length genes. A second kit is available from Clontech which is a modification of a related technique, SLIC (single-stranded ligation to single-stranded cDNA), developed by Dumas et al., Nucleic Acids Res., 19:5227-32 (1991). The major differences in procedure are that the RNA is alkaline hydrolyzed after reverse transcription and RNA ligase is used to join a restriction site-containing anchor primer to the first-strand cDNA. This obviates the necessity for the dA-tailing reaction which results in a polyT stretch that is difficult to sequence past.

[0058] An alternative to generating 5' or 3' cDNA from RNA is to use cDNA library double-stranded DNA. An asymmetric PCR-amplified antisense cDNA strand is synthesized with an antisense cDNA-specific primer and a plasmid-anchored primer. These primers are removed and a symmetric PCR reaction is performed with a nested cDNA-specific antisense primer and the plasmid-anchored primer.

RNA Ligase Protocol For Generating The 5' or 3' End Sequences To Obtain Full Length Genes

Once a gene of interest is identified, several methods are available for the identification of the 5' or 3' portions of the gene which may not be present in the original cDNA plasmid. These methods include, but are not limited to, filter probing, clone enrichment using specific probes and protocols similar and identical to 5' and 3' RACE. While the full length gene may be present in the library and can be identified by probing, a useful method for generating the 5' or 3' end is to use the existing sequence information from the original cDNA to generate the missing information. A method similar to 5' RACE is available for generating the missing 5' end of a desired full-length gene. (This method was published by Fromont-Racine et al., Nucleic Acids Res., 21(7):1683-1684 (1993)). Briefly, a specific RNA oligonucleotide is ligated to the 5' ends of a population of RNA presumably containing full-length gene RNA transcript. A primer set containing a primer specific to the ligated RNA oligonucleotide and a primer specific to a known sequence of the gene of interest, is used to PCR amplify the 5' portion of the desired full length gene which may then be sequenced and used to generate the full length gene. This

method starts with total RNA isolated from the desired source, poly A RNA may be used but is not a prerequisite for this procedure. The RNA preparation may then be treated with phosphatase if necessary to eliminate 5' phosphate groups on degraded or damaged RNA which may interfere with the later RNA ligase step. The phosphatase if used is then inactivated and the RNA is treated with tobacco acid pyrophosphatase in order to remove the cap structure present at the 5' ends of messenger RNAs. This reaction leaves a 5' phosphate group at the 5' end of the cap cleaved RNA which can then be ligated to an RNA oligonucleotide using T4 RNA ligase. This modified RNA preparation can then be used as a template for first strand cDNA synthesis using a gene specific oligonucleotide. The first strand synthesis reaction can then be used as a template for PCR amplification of the desired 5' end using a primer specific to the ligated RNA oligonucleotide and a primer specific to the known sequence of the ovarian antigen of interest. The resultant product is then sequenced and analyzed to confirm that the 5' end sequence belongs to the relevant ovarian antigen.

[0060] The present invention also relates to vectors or plasmids, which include such DNA sequences, as well as the use of the DNA sequences. The material deposited with the ATCC (deposited with the ATCC on June 5, 2000 and were given ATCC Deposit Nos. PTA-1982 and PTA-1985; and/or as set forth, for example, in Table 1, 6 and 7) is a mixture of cDNA clones derived from a variety of human tissue and cloned in either a plasmid vector or a phage vector, as shown, for example, in Table 7. These deposits are referred to as "the deposits" herein. The tissues from which some of the clones were derived are listed in Table 7, and the vector in which the corresponding cDNA is contained is also indicated in Table 7. The deposited material includes cDNA clones corresponding to SEQ ID NO:X described, for example, in Table 1 (Clone ID NO:Z). A clone which is isolatable from the ATCC Deposits by use of a sequence listed as SEQ ID NO:X, may include the entire coding region of a human gene or in other cases such clone may include a substantial portion of the coding region of a human gene. Furthermore, although the sequence listing may in some instances list only a portion of the DNA sequence in a clone included in the ATCC Deposits, it is well within the ability of one skilled in the art to sequence the DNA included in a clone contained in the ATCC Deposits by use of a sequence (or portion thereof) described in, for example Tables 1A or

2 by procedures hereinafter further described, and others apparent to those skilled in the art.

[0061] Also provided in Table 7 is the name of the vector which contains the cDNA clone. Each vector is routinely used in the art. The following additional information is provided for convenience.

[0062] Vectors Lambda Zap (U.S. Patent Nos. 5,128,256 and 5,286,636), Uni-Zap XR (U.S. Patent Nos. 5,128,256 and 5,286,636), Zap Express (U.S. Patent Nos. 5,128,256 and 5,286,636), pBluescript (pBS) (Short, J. M. et al., *Nucleic Acids Res. 16:*7583-7600 (1988); Alting-Mees, M. A. and Short, J. M., *Nucleic Acids Res. 17:*9494 (1989)) and pBK (Alting-Mees, M. A. et al., *Strategies 5:*58-61 (1992)) are commercially available from Stratagene Cloning Systems, Inc., 11011 N. Torrey Pines Road, La Jolla, CA, 92037. pBS contains an ampicillin resistance gene and pBK contains a neomycin resistance gene. Phagemid pBS may be excised from the Lambda Zap and Uni-Zap XR vectors, and phagemid pBK may be excised from the Zap Express vector. Both phagemids may be transformed into *E. coli* strain XL-1 Blue, also available from Stratagene.

Vectors pSport1, pCMVSport 1.0, pCMVSport 2.0 and pCMVSport 3.0, were obtained from Life Technologies, Inc., P. O. Box 6009, Gaithersburg, MD 20897. All Sport vectors contain an ampicillin resistance gene and may be transformed into *E. coli* strain DH10B, also available from Life Technologies. See, for instance, Gruber, C. E., et al., *Focus 15:59-* (1993). Vector lafmid BA (Bento Soares, Columbia University, New York, NY) contains an ampicillin resistance gene and can be transformed into *E. coli* strain XL-1 Blue. Vector pCR[®]2.1, which is available from Invitrogen, 1600 Faraday Avenue, Carlsbad, CA 92008, contains an ampicillin resistance gene and may be transformed into *E. coli* strain DH10B, available from Life Technologies. See, for instance, Clark, J. M., Nuc. Acids Res. 16:9677-9686 (1988) and Mead, D. et al., Bio/Technology 9: (1991).

[0064] The present invention also relates to the genes corresponding to SEQ ID NO:X, SEQ ID NO:Y, and/or the deposited clone (Clone ID NO:Z). The corresponding gene can be isolated in accordance with known methods using the sequence information disclosed herein. Such methods include preparing probes or primers from the disclosed

sequence and identifying or amplifying the corresponding gene from appropriate sources of genomic material.

[0065] Also provided in the present invention are allelic variants, orthologs, and/or species homologs. Procedures known in the art can be used to obtain full-length genes, allelic variants, splice variants, full-length coding portions, orthologs, and/or species homologs of ovarian associated genes corresponding to SEQ ID NO:X or the complement thereof, polypeptides encoded by SEQ ID NO:X or the complement thereof, and/or the cDNA contained in Clone ID NO:Z, using information from the sequences disclosed herein or the clones deposited with the ATCC. For example, allelic variants and/or species homologs may be isolated and identified by making suitable probes or primers from the sequences provided herein and screening a suitable nucleic acid source for allelic variants and/or the desired homologue.

[0066] The polypeptides of the invention can be prepared in any suitable manner. Such polypeptides include isolated naturally occurring polypeptides, recombinantly produced polypeptides, synthetically produced polypeptides, or polypeptides produced by a combination of these methods. Means for preparing such polypeptides are well understood in the art.

[0067] The polypeptides may be in the form of the secreted protein, including the mature form, or may be a part of a larger protein, such as a fusion protein (see below). It is often advantageous to include an additional amino acid sequence which contains secretory or leader sequences, pro-sequences, sequences which aid in purification, such as multiple histidine residues, or an additional sequence for stability during recombinant production.

[0068] The polypeptides of the present invention are preferably provided in an isolated form, and preferably are substantially purified. A recombinantly produced version of a polypeptide, including the secreted polypeptide, can be substantially purified using techniques described herein or otherwise known in the art, such as, for example, by the one-step method described in Smith and Johnson, Gene 67:31-40 (1988). Polypeptides of the invention also can be purified from natural, synthetic or recombinant sources using techniques described herein or otherwise known in the art, such as, for

example, antibodies of the invention raised against the ovarian polypeptides of the present invention in methods which are well known in the art.

The present invention provides a polynucleotide comprising, or alternatively consisting of, the nucleic acid sequence of SEQ ID NO:X, and/or the cDNA sequence contained in Clone ID NO:Z. The present invention also provides a polypeptide comprising, or alternatively, consisting of, the polypeptide sequence of SEQ ID NO:Y, a polypeptide encoded by SEQ ID NO:X or a complement thereof, and/or a polypeptide encoded by the cDNA contained in Clone ID NO:Z. Polynucleotides encoding a polypeptide comprising, or alternatively consisting of the polypeptide sequence of SEQ ID NO:Y, a polypeptide encoded by SEQ ID NO:X, and/or a polypeptide encoded by the cDNA contained in Clone ID NO:Z are also encompassed by the invention. The present invention further encompasses a polynucleotide comprising, or alternatively consisting of, the complement of the nucleic acid sequence of SEQ ID NO:X, a nucleic acid sequence encoding a polypeptide encoded by the complement of the nucleic acid sequence of SEQ ID NO:X, and/or the cDNA contained in Clone ID NO:Z.

Many polynucleotide sequences, such as EST sequences, are publicly available and accessible through sequence databases and may have been publicly available prior to conception of the present invention. Preferably, such related polynucleotides are specifically excluded from the scope of the present invention. Accordingly, for each contig sequence (SEQ ID NO:X) listed in the third column of Table 1, preferably excluded are one or more polynucleotides comprising a nucleotide sequence described by the general formula of a-b, where a is any integer between 1 and the final nucleotide minus 15 of SEO ID NO:X, b is an integer of 15 to the final nucleotide of SEO ID NO:X, where both a and b correspond to the positions of nucleotide residues shown in SEQ ID NO:X, and where b is greater than or equal to a + 14. More specifically, preferably excluded are one or more polynucleotides comprising a nucleotide sequence described by the general formula of a-b, where a and b are integers as defined in columns 4 and 5, respectively, of Table 3. In specific embodiments, the polynucleotides of the invention do not consist of at least one, two, three, four, five, ten, or more of the specific polynucleotide sequences referenced by the Genbank Accession No. as disclosed in column 6 of Table 3. In further embodiments, preferably excluded from the invention are the specific polynucleotide

sequence(s) contained in the clones corresponding to at least one, two, three, four, five, ten, or more of the available material having the accession numbers identified in the sixth column of this Table. In no way is this listing meant to encompass all of the sequences which may be excluded by the general formula, it is just a representative example. All references available through these accessions are hereby incorporated by reference in their entirety.

ABLE 3

| EST Disclaimer |
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| AL353802, AL031846, AP000308, AL139343, Z97629, AC010135, AL049832, AP000048, AL020995, AC011292, AC007955, AL356103, AC004938, AC002492, AC068811, AC023511. |
| AL008721, AC011749, AL024473, AC006354, AC002351, Z93015, AC007172, AC005230, |
| AL139342, AF165926, AL121902, AC007025, AC005181, AL158841, AC011742, AL163201, |
| AC007784, AL034395, AL136000, AC007344, AC010731, AL122013, AC002288, AL359751, |
| AL121721, AC066590, AL139232, AC024164, AL031662, AC007358, AC009481, AL050335, |
| AL033533, AC010789, AC009498, AC007850, AL020998, AC018684, AL034451, AL135783, |
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| ALTI/694, ALTIZI9IS, ALU49//6, ALU/8596, ALU55089, ALU96/64, ALU49505, ACU02553, ALU5667, ACU02553, ACU02553, |
| AC007446, AC020751, AC068314, AC003035, X87344, AC066598, AC073175, AL139351, |
| AC012156, AC006314, AC010582, AC018832, AC006142, AL139353, and AL163247. |
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| BF984505, BF983192, BG033275, BE537808, AU138496, BF978549, BF791293, AV758458, |
| BF9/09/0, BE09/039, BE09/1/3, BC020332, AV/30/19, BF340300, BE34032, BC1002934, AV/30/24, BG1138433 RF781076 RF700140 AV647651 RG180514 RF886542 RF669771 AW950287. |
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| | | | | | AC006287, AL020992, AL353587, AC004063, AL139109, AF110324, AC005230, AC008561, AC004058, AC004094, AC007488, AT 136970, 708751, AF140774, AT 031665, AT 365475 |
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| | | | | | AL109620, U93562, AC1010176, AL136296, AC026888, AL050329, AP000347, AL139192, A1 121900, A1 163278, AC005201, and A1 354777 |
| HOFMO90 | 29 | 746416 | 1 - 428 | 15 - 442 | A1929681, AW592729, AA648798, BG259038, AW250255, AW245532, AW651722, |
| | | | | | AW 3/3263, AW 220289, AUL 12333, BF 031436, BF 704880, AUL 24917, BF 794816, AUL 22624, AUL 41664, AUL 42862, BF 763514, AUL 25790, AUL 43619, AUL 20837, BE886545, AUL 25751, |
| | | | | | A1220039, BE258310, BE925039, BG005263, BF739929, AA024938, BE895457, BE383414, |
| | | | | | BR027149, T36005, BF218581, BE797690, AA211028, BE891460, BE885888, BF026383, |

| | | | | | AU143011, BG252532, AL536067, AL538416, AL518012, AA471174, BE727048, BE792076, BG121144, BF979650, W40299, BG026681, BE299425, AV749633, BE547012, BE902225, BF025777, AL040485, BF303752, BG169183, R17987, AL532385, BE538688, AL518448, AA471318, BE798701, BF307303, AA313413, BF306715, AA074578, BE122769, BF20640, Z41942, BE244339, AA181660, BF205625, AA196912, T35534, N56034, T74205, BE269688, BF304135, AA258411, BE385651, AA092564, BE156028, AF046001, AC005899, AB032196, and AB013357. |
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| HCHND34 | 30 | 762806 | 1 - 816 | 15 - 830 | AL538129, AL525022, BE872112, AII11183, AII14736, BE896548, BE877234, AII74851, AV705883, BE875361, BE881218, BE881076, BE880128, BE879647, BE879135, BE877386, BE877647, AV729201, BE898937, BE881222, BE876531, BE876600, AU70000, AU700000, AU7000000, AU700000, AU700000 |
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| | | | | | BE876785, BE879859, AII33444, AV726351, BE879895, BE867317, BE878477, AV709557, BE877726, BE878238, BE880722, BE889371, BE880140, BE875261, BE877598, BE875955, AII33486, AA639334, AV706033, BE878677, AV708006, BE875918, BE878422, BE881146, BE868603, BE881693, BE877813, BE89692, BE895621, AV702580, AV714977, BE879413, BE877674, AII74902, BE87961, AV709615, BE875602, AV723290, BE881506, BE880977, |
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|---------|----|--------|---------|----------|---|
| | | | | | AB005535, AC007282, Z79403, Z79419, Z79459, AI252237, and 107623. |
| HAMGI86 | 31 | 785328 | 1 - 653 | 15 - 667 | ALS20509, BE407109, BE312514, AW294706, N23047, N28711, N23224, AW517021, |
| | _ | | | | AAU399//, AAZ8/036, AAZ86/93,-AW1363/U, A136283U, AA382819, BF08463U, AW400954 AA317796 A1565859 AA317800 BF795579 AA387375 BF211504 BF184364 |
| | | | | | BF102863, BG106081, BF220088, BE279764, BE902929, BF239561, AI240475, AA229436, |
| | | | | | BE162216, AW590207, AW673504, BE538140, AA324312, U35117, U75488, A67520, |
| | | | | | U18422, S79780, L40386, AL080206, and A67526. |
| HLWCN67 | 32 | 794213 | 1 - 677 | 15 - 691 | AW978308, AA369775, N53897, AA807270, W95818, W95857, BF724803, AI125532, |
| | | | | | BG117266, BF968973, AU128956, U69567, BF102704, BF965471, BE770768, AV758189, |
| | | | | | BF111890, AW274041, N55318, D45459, AA301769, AA434064, BF002861, C04552, |
| | | | | | BG001662, AI569610, AA610288, AW580433, AK002172, AF090904, AB020703, AX029226, |
| | | | | | U95000, AX029228, and X64411. |
| HOFAC09 | 33 | 806819 | 1 - 854 | 15 - 868 | BE739621, BE379183, BE617530, BG108163, BE619662, BE748774, BF570337, BE305001, |
| | | | | | BG249872, BF569120, BE612784, BE619823, BE271125, BE619946, BE617896, BE271060, |
| | | | | | BE300237, BE617937, BF966616, BE738551, BF340609, BF688981, BG257657, AV713811, |
| | | | | | BF974766, BE293496, AV717562, BE293387, BF689303, BF220284, BE748652, BE619923, |
| | | | | | AA642201, BF688590, AI174682, BE279777, AV715664, AA641148, BE299551, AV652787, |
| | | | | | AI174681, BF683366, BE747352, AA857839, BE872623, AV718269, AA640951, BG105683, |
| | | | | | BE778293, BE393602, BE546109, BE250635, BF982878, BE531162, BF570115, BG178614, |
| | | | | | BG179165, BG163531, BE531088, AV717782, BE613177, BE902527, BE271042, AL514500, |
| | | | | | AA858434, BE738219, AA837571, AV685977, AV756374, BG034916, BE740524, BE262924, |
| | | | | | BE378440, BF984231, BG029312, BE388222, AV684312, BE748508, BG256740, AV702438, |
| | | | | | BF237938, BE408065, AI817627, BG163462, AW001149, BE622882, AU128631, BG180980, |
| | | | | | AV688195, BE260549, BG255882, AI708325, AV684830, BE881395, BE788254, BE787490, |
| | | | | | BE249917, BE909118, BE305209, BE735960, BE397738, BF982126, BG256362, BF686276, |
| | | | | | BF237724, BE559874, BE266498, BF059086, BE251388, AA632140, BE787304, BE300231, |
| | | | | | BE293776, BE547987, BE439558, BG250330, AA642980, AV698344, AV715876, BE794978, |
| | | | | | BF125097, BE793931, BG256096, AV685452, BE388457, AA857476, AW149599, BE889684, |
| | | | | | BE617898, AV714051, AV688156, AV684821, BE619643, AV717638, AV717113, BE737518, |
| | | | | | BE545839, BF965676, BE748476, BE250538, BG029641, AV645505, BE736394, BF983033, |
| | | | | | BG027429, BE745157, BG180061, BG113341, BE512833, BG168282, BF696011, BG118147, |
| | _ | | | | BE394485, AV716748, BE728375, AI749591, BF340890, AW001147, BF184101, BE250051, |
| | | | | | AA551057, BE903863, BG114266, BE305190, AV709267, BE293782, BE549134, AV714025, |

| BE787082, BE867785, BE293862, BE270866, BF241730, BF726447, BE293418, AL515432, BE549236, AL048321, BE250128, BE547824, BF686567, AV704265, AV689285, BE746994, BE305240, AA641228, BG122667, AL047780, AI114669, AA551126, AA663427, AI816286, AA628465, AW170178, BG18066, BG254849, AA573113, BE408039, BE256744, AW327938, BF036883, BE249983, AA573126, AA307742, BE513000, BE540263, BE781757, BE785532, BG255393, BG248626, BF345711, BG028606, BE786948, AV685448, BE74152, BG114313, AI660952, BE786601, AI826591, BF317338, BE903912, AA146900, BE618614, BF314522, AA961746, AI246524, BG109603, AA603104, BE597431, BE730353, AL513894, BE548848, BF212989, BE614351, BG179616, BE379047, BE300246, BE267892, BE538628, X15096, Z29530, X15267, M17885, AK001313, AF013214, AC004263, AL133163, AF044496, L28704, AB007187, AF162483, AF132973, and AF155662. | A1696793, AW162288, AV703259, BF821897, A1358089, F13749, AW819125, AV726885, A1696793, AW162288, AV703299, AR79179, BF82181, A1821918, AW504224, AL0464609, A1745151, AA654781, BF750422, AA579179, BF8210109, A1284640, BE301111, AA654781, BF750422, AA279179, BF821009, A1284640, BE301111, AA654781, BF750422, AA279179, BF821009, A1284640, BE301111, AW518299, AA715814, A1378229, AL0779645, AL077910, AA659627, BF668217, AW518220, BE138594, AL046746, AA410788, AW506084, AW021116, AW500029, A1755214, A1754105, AA581903, BE062729, AV764259, A1754567, A1613280, AW504297, BE676915, AV740099, AV716182, AW673221, A1732151, AW575165, B6009601, A1133164, AW576251, AV776827, AW964231, A1733856, BF9916939, BF589066, A1623423, BF678990, AL118991, BF677892, AA6577835, A1610920, BE049229, A1049676, AV735495, AA610491, BF677892, AA657835, A1610920, BE049229, A1049676, AV735495, AA610491, AR281881, AW023111, BF805088, A1783911, AV761745, A1270117, A1636627, BG036665, A16217897, AW8533862, AW895391, AV761745, A1270117, A1636627, BG036665, A1621789, AW501806, AV133864, AL133005, AU93265, BE139139, AW081194, AW499745, A1732764, AC002350, Z85986, AL133647, AL133701, AP000557, AL157877, AC004386, AC004586, AC007880, AC004583, AC004889, AC007880, AC004583, AC004885, AL121871, AL031053, AC006522, AL078614, AC034990, AC010463, AC006824, AL135701, AC004988, AL137139, AL138288, AC004988, AL136097, AC004983, AL136097, AC006388, AC0060388, AC006388, AC006388, AC006388, AC0060388, AC0 |
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| | 824886 |
| | 34 |
| | HRDEL61 |

| | | | | | AL133448, AL133548, Z99289, AC000025, AP000049, AC006369, AC006211, AL049874, AC005527, AC008569, AC008264, AC011497, AC011479, AL117372, Z69706, AP000116, |
|---------|----|--------|----------|-----------|--|
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| | | | | | AC005062, AL109798, AL121712, AC005214, AC027319, AL023279, AC007344, AC004929, L44140, AL022238, AL137164, AL031774, AC004087, AC005158, AC012072, AC007546, |
| | | | | | AP000556, AC018639, AC005701, AC008892, AC004774, ALA45123, Z97630, AC006965, |
| | | | | | ALI219/4, AF000310, ALI18220, AC003031, ALI32///, AF001/43, AC002492, ALI21633, AF030154, AC007055, AL022165, AC010285, AP001597, ALI39120, AL021154, AL355305, |
| | | | | | AC008925, AL354720, AP000350, AC011451, AC007404, AC005261, AP001619, AL049712, A 1003147, A C003147, A C00314 |
| | | | | | AB023048, AL137220, AL031662, AL078591, AP000513, AC010363, AL117382, AL136363, |
| | | | | | U18391, AC009306, AC007899, AC007551, AL022320, AC021037, AL031311, AC004815, AP001709, AC008616, A9106, AC008071, AC009242, AL355296, AC010422, AC007371. |
| | | | | | AC004462, AP000090, AC006318, AC005180, AL442167, AF015156, AC007406, AC005837, |
| | | | | | AC005020, AC008119, AL359457, AC007226, AC004854, AC005823, AL161916, AC007405, |
| | | | | | AL049835, AF148460, AC003964, X69907, D83989, AL121694, AL024509, AC006001, AC004150, AF165926, AL008735, AC007630, 1153930, AC008747, Z82198, Z84814 |
| | | | | | AC009314, AP001725, U18394, AC006277, AL161731, AL031661, AP000552, U57007, |
| | | | | | AL133415, Y09781, AC007308, L34079, AC011742, AC004999, AC005229, AP001631, |
| | | | | | ACUNO462, ACUN4922, AL133836, AL391064, ALN08249, ACU16736, ACUN736, ACUN3914, ACUN6482, ACUN748 DR7675 AFN11889 ACU10618 ACUN6500 A1109614 ACUN6874 |
| | | | | | AF134471, AC005531, X14975, and AL121936. |
| HDPOR60 | 35 | 828176 | 1 - 3339 | 15 - 3353 | BE907538, BE250250, BF311047, BE906254, AV726530, BE304645, BF525388, AW959258, |
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| | | | | | AW197044, BF888665, BF888510, AI369052, BF888666, AA984504, BF513927, BF888512, MS8270 BF888512, MS8270 BF888667, BF888671, BF810104, H77054, BF888504, BF377070, AW080508 |
| | | | | | N36/40, DI 868602, DI 8680/1, DI 8121.74, 112/204, DI 866524, DI 5/19/12, AW 869526, AA458/747. BF371802. BF377969. BF093530. BF888530. BF376487. AW025603. BF885116. |
| | | | | | BF766670, AI283519, BF888682, N90132, BF081241, BF093542, BF872063, BF377968, |
| | | | | | BE818399, BF093531, BE872720, BF093535, AA652251, W16733, BF093536, Z43110, |
| | | | | | BF093539, BF934232, AW294491, BF884943, BF095532, BF093543, AA813169, AL905629, AA229779, H14451, BG012148, AI692605, R50198, AI126253, BF093546, AA865539, |
| • | | | | | AA341212, BF885117, R83103, BF089975, BE938102, AI886490, AA385992, BF081230, |
| | | | | | A16833396, H/U364, BF/62/41, H3U/21, AWU8/193, BF3326/6, A1364918, BGU13980, |

| 739199 BE764158 H78604 H50828 A1310339 R83044 BF764697 AA150304 AW674742 |
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| AA295511, R50143, AI499852, H75304, AA709057, T36284, BF888676, AA151406, |
| BF889242, BE148070, AI334202, BE935304, N72650, BE935305, AA765395, BF935410, |
| H75551, Al963154, BF093538, AA151405, BE935592, Al765336, BE763414, R08139, |
| BF929226, BF093545, AA229882, BE818437, BF888516, AW675325, BF334977, BF848924, |
| AA603025, AA054715, AL118825, AW368110, BF333239, AW296910, BF115534, AI831921, |
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| C01027, BG026413, Br / 93694, ALV40241, A W 102194, Br 014337, A W 02/11/3, BG 103679, BG026389, AL043321, A1929108, BF814761, A W268759, A V752436, A 1589428, A W087445. |
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| D84344, AF013710, AL137529, AK025391, AK026647, AK026542, 148978, AF131773, |
| AL359600, AL080148, AK025254, AK026590, AL122121, X80340, M30514, AL050155, |
| U96683, AF158248, X63574, E04233, AJ003118, AF126247, AB050510, AL133640, A08910, |
| A08909, AK025092, AK027188, L13297, A08908, AX045627, AF113222, X84990, AR011880, |
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| AK026749, AF177401, X98834, AL096720, AK027113, AF116644, AK000636, AL137459, |
| AF321617, AK026927, A18777, AF031903, AF119865, AF143723, AF217991, AF061573, |
| A21103, AF130055, AK026480, AF111849, AL442082, 132738, X72889, AK024524, |
| AB007812, A93350, AX020124, A07647, AL359620, AL389935, AF116631, AF218031, |
| E02253, AK024538, 133392, AK025339, E01812, A08912, AF262032, AL122093, AL133606, |
| AX010492, A23630, AX026824, AX026823, A58524, A58523, 189931, AK026959, AB048975, |
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| | 15 - 532 | 15 - 1382 | | 15 - 2240 | 15 - 302 | 15 - 772 | 15 - 1003 |
| | 1 - 518 | 1-1368 | | 1 - 2226 | 1 - 288 | 1 - 758 | 1 - 989 |
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| | HDTMK30 | HDPFX64 | | HODFG71 | HCE3165 | HSAVH65 | HBXFT41 |

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| | 15 - 803 | 15 - 1715 | 15 - 927 | 15 - 1253 | | 15 - 490 |
| | 1 - 789 | 1 - 1701 | 1-913 | 1 - 1239 | 1 - 1640 | 1 - 476 |
| | 847821 | 849064 | 859572 | 859622 | 862010 | 862481 |
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| | AA536040, AA084609, AI537368, BG231195, AW265449, BF876252, AA550837, AI419390, |
| | A1568260, AA074086, A1755227, A1421783, AA182577, BF949151, BG110480, AL134700, |
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| | ALIOZOIS, ACUIISVO, ALISSZSS, ACUGOZSO, ALUSSZVO, ALUSSZVO, ACUVOSOS, ACUVIZOS, |

| AL049843, AC078889, AC005231, AL096840, and AC013434. | AV759518, AW827240, AI133297, BF347791, AI932493, AW827130, AL042753, AV762395, AA483929, AW023990, BF347740, AI751216, BF337291, BG153869, AW857802, AI499588, | AA846952, BE065673, AA664909, AV739452, T06754, BF679256, AI039584, AW872348, | BE782280, AV755907, AL039145, AW020340, AIS83283, AA633753, AV745092, | AW82/120, AA901033, A14/188/, Bro//892, AA634889, BU249043, AA438/03, AW963750, AL038705, BG109996, AL119691, AV733824, AW275510, AL135377, | AW512484, AV742875, AW235497, AW168618, AI538870, AW270343, AA531079, | AU140328, BE297262, AI345157, AA547947, AW021735, BF437493, AA584167, AV736964, | AV710066, BF816072, AA533303, AI687343, BF885142, AV733627, BF902055, AW866226, | AI445674, AI732547, R86151, AW303002, AW960545, AI247199, AA661921, AV763550, | AI284640, AV764307, AI536665, AI872020, AA569471, BE378770, AW021207, AW472872, | AV740801, Al311927, AW149339, AW969870, R24887, AV764578, AA101689, BE252421, | BE139146, H71429, BF942454, AA467932, AA639326, AA493695, BE147488, BE973754, | AL046409, AI956124, BF698704, AW302903, AW084466, AV734666, AL045808, AL046156, | AI568678, BF738242, AW148507, AV760378, BE164494, AI888759, BF874664, AA468022, | AV760207, AI801482, AL042853, AI798266, AA533333, BF691714, AW968181, D58349, | AI873990, AV762098, AV761547, BG113106, AW302013, AV738993, AI382825, BE253048, | BF970654, AA632600, BE967622, BF699964, BF185578, AV730301, AA541423, BE907585, | AA502104, AA309257, AV710996, AA320966, BF697673, AA490183, AA954924, | AW327868, AW419237, AL048925, AV703942, AV707949, AA683238, BF792954, | AW833862, BF792883, AV763354, AL044940, AI969436, BF681661, BF680084, AV763971, | AL044904, AU121503, AA765736, AA650211, AA847499, BF853144, AI270117, AL049766, | AB037825, X55933, AC073316, L47228, X55929, AC006483, AL031279, U67831, AL008718, | AL136980, AC005900, AL359763, X54177, M37551, AL136311, X54179, AC006930, | AC023154, AL049870, U57005, AC003108, AC002310, X54181, X54175, U57008, AL080315, | X75335, U18392, U18394, AB023798, AL354670, AC016939, AF109907, AC005221, | AC005815, AC007881, U57006, AF038458, U18395, I51997, AC007014, AL035455, | AK024741, AC007537, AC010282, AL031774, AL137019, AC003101, U07562, AC016601, | AC007226, AC007907, U18391, AP000962, AC005180, AC006530, AL356414, AC004890, | U57007, AL161422, AC020934, AC004150, AC025593, AL049760, AC002115, AC025447, | AP001667, AC010154, AC020956, AP000472, AC007298, AL445225, AP000307, AL391119, | X55926, AC008960, AF015151, AL355094, AL022163, AC006226, AC023275, AC006211, | AL157776, AC007671, AC004977, AC0005527, AC010789, AC007383, U57004, AC009244, | AL031281, AP001683, AC035150, AL162377, U18393, AC007546, AL121886, AC005517, | ACU34246, ALU3U318, ACU22434, ALI3392/, ACUU/22/, ALU3184/, ACUU8U33, AFUUUU88, |
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| | HOGAS18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | , | | |

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| HHSDL18 | 63 | 869701 | 1 - 1374 | 15 - 1388 | AA812573, AL518998, AW972473, W73306, AL522221, AI809692, AA513449, BE501387, AI148527, AW452872, AW245994, AA954445, H57889, AW183378, BE872438, AA813225, AI619978, BE794663, AW197888, BF088329, R24069, BF209308, W73041, BE502424, R24121, R26598, AW245458, AI929294, AA249846, AK024151, AL121754, AC008155, AC025593, AC004690, AC083870, AC005011, AL121897, and AL022238. |
| HTFMS34 | 2 | 870486 | 1 - 447 | 15 - 461 | AW402328, AA354692, AA724612, AV758954, AV744331, AA158742, AJ768253, AA353944, AW001224, AI857605, AU156990, AI830105, AA987516, AA588890, AW979250, AW979200, AW974813, AW969719, AW979221, AW975126, AW979156, AW970932, AW979200, AW975987, AW973183, AW975409, AW979220, AW979219, AW977988, AW975409, AW979220, AW979219, AW971985, AW9719064, AW979284, AW977802, AW972802, AW970030, AW975427, AW971970, AW979197, AW9779136, AW977912, AW97790564, AW973136, AW977917, AW97792762, AW973136, AW971963, AW9779145, AW972609, AW977917, AW9779140, AW9779145, AW9779194, AW977914, AW977914, AW979194, AW979194, AW97791, AW977914, AW979228, AW979194, AW979973, AW977875, AW970921, AW979335, AL121928, AL050035, AL135904, AC004889, AL136137, AC009060, AC006587, AC010605, AC005783, and AC005696. |
| HLDOG81 | 65 | 874506 | 1 - 1220 | 15 - 1234 | AL521118, AW339982, AI827788, AI627750, AW575122, AL531441, BF967087, AL038656, AI888509, AW156877, AI094580, BE349949, AI963436, AI634293, AI891103, AW080820, AA910949, AW009916, AW338663, AL525766, AA514770, AL037705, AI924086, AI951034, |

| | | | | | AI025380, AU151967, AL038657, AW778781, AT702238, N47212, AL688623, AI091742, N57407, AW188387, N32312, AW469366, AA860531, AW518859, AA863007, AA532789, AW138857, AA912494, C75275, AG800564, AR075117, W15332, W32856, AW084366, AA9132448, AA889224, AI075117, W15332, W32856, AW084366, AV081448, AA889223, AI302660, AA9022855, AI888343, BE931227, AA507932, AA981448, AA88923, AA916382, AI302660, AA9022855, AI888343, BE931227, AA507932, AV730060, AW0813399, AA987821, AA916382, AI3029905, AA953919, AL525715, AI282708, AW153985, AI803426, AW591292, AW028183, AA825320, AW173786, AW338830, AI28646, AW178890, AI673106, C75395, AA887708, BG108610, AA885999, T28851, W37827, R63566, AW178890, AI673106, C75395, AA887708, BG108610, AA888796, AL52513, AI813624, AV118486, AW173237, AW265368, H42573, BF694671, AI811441, AI476381, BE28334, AW080982, AL525923, C75171, C01891, BG150929, AL521119, AA084007, AI554233, BG106145, BF343702, BG186468, BG106778, BG166291, BG249591, BG039548, BF798797, BF796402, BF969798, BG106778, BG26426, BG111916, AL02009, BG180295, BG106778, BG106736, BG111979, BG250646, BG106749, BG167415, BG25948, BG11150, BG16499, BG180295, BF72054, AL039390, BG179586, BG11150, BG164994, BG105848, BG25064, BG111010, BG11468, BG250794, BG17714, BG272494, BG17714, BG27249, BG111100, BG116994, BG106149, BG110618, BF797998, BG229888, BF7960794, BG179183, BG170847, BG251070, BG164994, BG179183, BG170847, BG25100, BG16997, BG164994, BG17918, BG170847, BG25110, BG252534, BG167751, BF345161, BG114665, BG25110, BG25234, BG25049, BF345161, BG114865, BG25110, BG26049, AF20104, AL04137, BG170841, BG25110, BG250494, AL04137, BG170841, BG25110, BG25110, BG16997, BG16495, AL046681, BF968504, BF345161, BG114865, BG25310, BG25234, BG170847, BG25110, BG25234, BG170847, BG170841, BG25110, BG25234, BG170841, BG17084, BG1708 |
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| нтхQF81 | 99 | 874608 | 1 - 1226 | 15 - 1240 | BE735657, BE794634, Al346435, BE794294, BF035725, BE540828, BE736917, BF971130, BE874911, BE875498, Al346435, BE619340, BE54354, AV708235, Al813687, BG168124, BG029001, BF310923, AV703089, BE546820, AI523881, BF034887, AI246030, BE515214, BE789330, Al565163, BG178201, AA402794, BE784412, BG169860, BE878355, BE393961, BG025146, BE880077, BE874897, BE790171, BE78644, AA477593, BF968299, BE259495, BG180371, AA161137, BE394326, AR87676, AW752983, AA622341, BE048130, BE266971, AA161115, BE909193, AW386295, BE870857, AI280907, AA421577, AA552244, AA574027, AA453330, AI523581, AA826619, BF677836, BF030389, AA464842, BE620003, AA766218, |

| BF939735, AA429353, N63397, AA464528, AA293567, BE393130, BE621337, BE621591, N98676, AI688036, AA897561, AI831467, AA424522, AI246562, BF978098, BF219064, AA160777, AI381579, AI991221, AA130549, AW001996, AI992166, AI857333, BF131906, AA424374, AA430526, AA777100, BE865692, AI148183, AA026078, AI332571, W92874, AA099121, AI057323, AI174284, AA421006, AI800148, AA293398, BE909077, AA856632, AA159370, AA453201, AI720789, AW001345, AA430611, AA428764, AA130586, N95686, AI819980, AA856698, AI831247, AA434191, BE621477, AA808470, AW406028, AW386371, BE880081, AA029925, F22574, AA454167, AA402802, AW272436, AI801083, AA430426, AA999657, AA832420, AI27391, AA857226, AI871010, AV763355, AW664325, H47425, AW518864, BE697609, AI598093, AA830492, AV760127, N73100, AA826723, AI904954, R96443, BE697607, AA086361, AB6966, BE964444, AW195589, AA505268, AA315443, AM506737, AA606432, AA606432, AA606432, AA606432, AA606432, AA606432, AA606432, AA606432, AA60643, AA606443, AA6064643, AA606443, AA6 | AV705607, AA758930, AI304791, H69012, AA429056, BE545935, AW302628, AW804779, AI091522, AI299197, AW328355, AI719387, AI086972, BF905782, AA661521, AI935183, AW572270, BE762364, AA053217, BE762365, AI337894, AW467641, AA588803, AI347946, BE698279, N66153, AI498213, BF732793, AW069810, H75395, AI587160, BF055282, AW387616, AI091629, AW387528, AA402306, AI457944, AI923632, AW387610, AI214251. | AM340466, AW807817, AW387609, AW807818, AI089510, BE937323, AA723089, AA340466, AW807817, AV685409, AA687919, AA159162, AW387605, AW807890, AA687919, AA159162, AW387605, AW807890, AW387556, AI718119, AW387612, AW387532, AI261968, AA527012, AW387677, H47338, BF374464, AW387679, AA759077, BE937312, AW807895, BF571629, AW387539, AI261532, AW807739, BE841949, AA029924, AW387625, AA761238, AI830407, BE937330, | AW387557, AW387547, BE842102, AW387583, AW807749, AX014336, L09604, AF196779, U93305, U16149, T95659, T99421, T99527, R96442, N92482, AA025486, AA043896, AA099122, AA100577, AA159465, AA513191, AA617664, AA285059, AA290976, AA477464, AA629238, AA853553, AA853552, AA852809, AA852810, D20308, AI197850, AI364502, AI368248, AI479890, and AI610373. | BE891902, AW271686, BE677446, AW025554, AI420969, AL521237, BE879239, AI202304, AA375089, BE245380, BE246652, BE547456, AA337142, BE879198, BF218778, X55740, D14541, 105214, L12059, and U21730. | AA531009, BF114862, BE645201, AI803060, BE746455, BF111457, AW058661, BG060155, AW957837, AI871128, AI040865, AI635619, AA279688, AA314121, AA291325, BE044274, AI300358, AI026031, AW136587, N48589, AI333491, AI217438, AA872204, AA313681, BG149853, AA761900, AA825668, N62189, AI742355, AI167192, AA782249, AI472224, AI027048, AA969624, AW957912, AW505197, AA907863, AW576584, AA279718, AA489085, AI356298, AA496950, AA490549, R81199, AI915658, AW500237, AW242542, BF109353, AA489150, H41907, F09870, AU126430, AV726684, BF061082, AI809172, |
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| 03, AI346071, AI769499, D21, AW328022, AA936846, B934, AI240430, BE856850, AW135001, N32423, AA635181, AW635181, AW636181, AW6 | 726, AW152541, BF436606, 49, AI783469, C06405, 075317, AW993789, | 424, AW517424, AW612993, 618, AA400973, AV740396, 7027, AV738776, AA167459, 39857, AZ24506, AA164459, 39857, W38398, AW276087, 4902, AA148193, 5666, AV735674, AV735675, 800, AA166792, AA074727, 5085, BF765758, 991737, BF748440, AA102361, BF98121, 137, AI675895, AA506601, 5566, BE004062, BE183618, 5, AA169569, AW364597, 73, AF354577, BF805800, 8822, AA298668, AI810491, 899, BE004010, BF801920, 93097, AI797418, 2267, BF893885, BE716617, 933, AI749194, AI866124, 1322, BF8966945, AW270590, AV806645, AW270590, AV8066124, AV8066 |
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| AW139442, Al346557, Z39110, AU138809, AW505549, BF590603, Al346071, Al769499, AA948417, BF979316, Al261341, Al818467, Al658736, AW328021, AW328022, AA936846, BE326658, AA725007, AW804008, Al949826, BE720597, AA903934, Al240430, BE856850, BF745746, AA805276, T65227, Al698620, BF801671, AU123140, AW135001, N32423, AA077170, Al810909, AA094403, BF035754, AI814548, AA070291, N56845, AA095591, BF431423, BF765768, T06057, Al884950, BE818340, AA609881, AA635181, AW901181, BF329787, AF038969, AF018553, AF038967, AF035737, Y14946, U77948, AC004883, AF043220, AF043219, AF017085, AF289666, AL078475, AL163203, AL050302, AL163152. | AI718277, AI806204, AI922705, AA134958, AW189584, BE940626, AW152541, BF436606, AW589567, AW779876, AA911194, AA099689, H26598, AI523349, AI783469, C06405, AW979187, AA856931, AW050657, AW580584, AA650629, AA075317, AW993789, AI535926, AF095844, AC007750, and I50896. | AA831575, AI750047, AI762213, AW778875, AA528093, BF594424, AW517424, AW612993, AI790649, AA514773, AA514789, AA421943, AA167440, AI708618, AA400973, AV740396, AI749649, AA514874, AI283967, AV738755, AW845024, AA587027, AV738776, AA164759, AA164420, AA612930, BF879539, AA878029, AW193324, AA857522, AI284506, AA16459, AA164458, AV741975, AW583341, AA878029, AW193324, AA857522, AI284506, AA16459, AA164458, AV741975, AW583341, AA838234, AA169874, AV739857, W38398, AW276087, AA164458, AV741975, AW583341, AA878614, AI69077, AA074902, AA148193, AA07741975, AA0779651, BF802476, AW190644, AI306666, AV735674, AV735675, AA167439, AA857853, AA0774845, AI199258, AA535642, AI826800, AA166792, AA074727, BF893886, AA421944, AA165663, AA075896, AW751341, BF875085, BF748440, BF898843, AI626104, AA076180, AV739168, BF892331, AA524360, AR833071, BF748145, AV741817, AA079557, AA593897, AI680515, AA573567, AA401137, AI675895, AA506601, BE8986957, BF893703, AV743848, AW272215, BF354583, AA077656, BE004062, BE183618, AV740205, AA837854, BF334915, AA515574, N79823, BF893822, AA298668, AI810491, BF893729, BE140374, AA076565, BF894875, AI8904310, AW664712, BE184103, BE171661, BF893822, AA298668, AI810491, BE893729, BE140374, AA076565, BE811764, AA299459, BF893882, AA298668, AI810491, BE889013, AA503524, BE89386, AB69320, AB69320, AA599856, AA599859, AW505050, AA77676, BE645920, AA5988242, BE183717, A1939989, AW352267, BF893885, BE716617, AW778953, AT77374, AA172395, BF900257, AI473481, AA502597, AA329732, BF899855, AA505999, AA172905, AA778985, AA7778985, AA777898 |
| AW139442 AA948417 BE326658, BF745746, AA077170 BF431423, BF329787, AC004883 AC163152. | AI718277, AW589567 AW979187 AI535926, | AA837575, AI749649, AV738660, AA164458, AW264913 AW265060 BF893886, AW265060 BF898643, AV741817, BE696957, AV741817, BE696957, AV740205, AW7334, AA BG057623, AW7336, AW7376855013, AW7376855013, |
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| | T69259, T69334, T69414, T70072, T70141, T70468, T72286, T73793, T73882, T91641, |
| | T79042, R01694, R02636, R18116, R23516, R44648, R44648, H00395, H16002, H19729, |
| | H20067, H22119, H22120, H40227, H43078, H43341, H43395, H44447, H44489, H46528, |
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| - | F18530, AI085525, D78916, N83510, N83793, N84517, N85807, W26508, N86246, C03409, |
| | C03702, C03872, C04400, C05618, C05650, C06265, AA056715, AA641170, AA641322, |
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| | AA219762, AA076729, AA248341, AA248365, AA247773, AA400081, AA401598, |
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| | AA629819, AA629919, AA405073, AA703670, AA722276, AA723160, AA723559, Z20821, |
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| | AI089246, AI095933, T19734, T19760, F02852, F04720, F06580, F08359, F08509, T91586, |
| | AA702813, AA550729, AA550955, AI242638, AI244040, AI249336, AI251886, AI274381, |
| | AI276325, AI283993, AI285656, AI287378, AI291747, AI309119, AI347321, AI347861, |
| | AI354255, AI356607, AI360500, AI362403, AI362841, AI368227, AI199774, AI394543, |
| | AI434381, AI434749, AI439794, AI439945, AI440096, AI473575, AI475994, AI469680, |
| | A1470746, A1471739, A1491928, A1559702, A1566185, A1499261, A1566997, A1568494, |
| | MILESOUV, MILESTOV, MILETOVI, MILETOLO, MILESOTO, MICESTAI, MICESTAI, MICHOLOV, |

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| HHENW77 | 87 | 894855 | 1 - 1761 | 15 - 1775 | AL526926, AL527436, AL526045, AL538507, AL520776, AL538372, AL535254, AL538508, AL527469, AL526103, AL536877, AL526963, AL536876, AL525906, AL525994, |
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| | | | | | BE838401, AL323003, A1883227, BE043396, A1341139, BF9/1037, AW934347, A1933218, A1922406, AA778161, A1687121, BF835950, BF835954, AW148695, AW195853, BE874135, |
| | | | | | AI336147, AI091364, BE162509, BF345973, AI769203, AW627859, BF439954, AI358396, |
| | · | | | | AA283686, BE677432, AA932022, BE882539, AA812396, BE222881, AI880226, AW016109, |
| | | | | | W22821, AA349833, AI207239, BF528099, I77194, AA351716, AW802143, AW802146, W22566 AA349483 AW952324 A1935916 AA912295 AA32318 AA513643 BG236769 |
| | | | | | AI191844, BE044376, F10141, T24055, AA323421, T74074, AA860955, T87227, AI160164, |
| | | | | | AA916795, H43568, AI432797, F12523, AA323203, AI522051, AI869229, T15481, AL040209, |
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| | | | | | AI419193, BF957667, BF811179, AA290708, AA976981, BF811672, AA350458, AW895092, |
| | | | | | AI953159, AA911413, BG059278, BG230864, AA528216, BG166654, AI432030, AW079432, |
| | | | | | BE5405/8, AW1615/9, BG030405, AIS82932, AW132056, AW82/206, AA580663, |
| | | | | | AW101202, AW020397, BF342023, AW000701, AW073362, AI800090, AV062190, AW935969, BE069307, P26535, BF011880, BE879722, BF772508, AI270183, AL037030 |
| | | | | | AW084056, BE895765, BE964994, AL120056, BF814450, AW264895, BE906419, |
| | | | | | AW834302, AL513813, BF811808, BF812459, AW020095, AI494201, AV682724, R39444, |
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| | | | | • | AL110159, AL035458, AK024538, AF260566, AK026855, AB029065, AK026534, AB034701. |
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| | | | | | AF100931, A/9812, ALS90134, AF119803, AX003848, AX003804, AF21/98, AK026326, |

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| | | | | | Y11254, AJ000937, AL049382, AK000212, AJ238278, AK025435, AF090900, AF058921, |
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| | | | | • | AK024546, AL137480, AL080124, AF111112, AF314091, AX040958, AK024588, AF119899, |
| | | | | • | AB048975, AL117585, AF111847, AL137660, AL137656, AL122093, AK025465, AL133072, |
| | | | | - | S76508, AL122121, AL137476, AF113013, AL110225, AK000718, AK026865, AK026408, |
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| | | | -, -, | | AK026642, AJ299431, X70685, AB048919, Z72491, AK026541, E02349, AF106827, |
| | | | | | AK026885, U53505, AL137648, AX040974, AB048974, AK025092, AF242376, AK027164, |
| | | | | | AK025632, A93350, AF017152, AX020124, and AL080162. |
| HOFNUSS 8 | 88 | 897344 | 1 - 691 | 15 - 705 | BF812933, BG151247, AL121270, BE887488, AW087445, BE048071, AW071349, BF968493, |
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| | | | | | AL513553, BG168696, AL513907, BE047952, AL513911, AL514919, AL135661, BG164371, |
| | | - | | | AI433976, BG179993, BF795712, BG036846, AL045500, AI433157, BG252929, BE963035, |
| | | | | | BE877769, BG032208, AL040243, BE904178, AL513753, AI440239, AL513837, AL047763, |
| | | • | | | AI275175, BF343172, BE047863, BF971016, AI620284, BF038131, AL119791, AI539771, |
| | | | | | AL046849, AW827203, BE785905, AI500659, AW117882, BF812438, BE048135, BF037097, |
| | | | | | AV681949, AL515041, AL036146, BG252914, BE048179, BF726421, AI436456, BE048081, |
| | | | | | BF793324, BF726297, BG257535, AW274192, AI568855, AV681668, AI348897, AI873731, |
| | | | | | BG113662, BE048319, AW074993, BF344479, AW162071, AL047042, AI349645, BE781369, |
| | | | | | BE172767, AI538716, BG260037, AV655645, BF726001, BF727212, BG026194, BF726322, |
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| | | _ | | | BE964812, BF793644, BF883916, BG114104, AI568870, AI758437, BG109270, AW301409, |
| | • | | | | BG110684, BF724691, BE047738, BE894455, AL036396, AI340582, AI349933, BG250190, |
| | | | | | AI868831, BF969484, AIS97918, AI521012, BG120816, AW089572, AW071417, BG257920, |
| | | | | | AI349256, AV727776, AW827249, BG112879, BF794994, AI863014, AW195957, AI540832, |
| <u> </u> | | | | | AI613017, BF792099, AI439087, AI250293, AL120736, AL036802, AI678302, BE882656, |
| | | | | | BF812961, AIZ49257, BE047859, ALS14803, AW103371, BE964700, ALS13693, BG170430, |
| | | | | | AI281779, AI857296, BF882334, AI349004, AI702433, AI440426, BE891101, BG180034, |
| | <u>.</u> | | | | BE048026, AI345735, BF812938, BF340031, AI699857, AI862142, AI633419, AI498579, |
| | \dashv | | | | A1866002, A1499131, BG259801, AI281773, AV711509, A1597750, AL044207, BE968552, |

| | BF981774, AI567351, AI866608, AL515173, AI500077, BE048013, BF882343, AI612913, |
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| | BG058398, AW075351, BE907331, AW148320, AL515047, AL513977, BE966388, BF970658, |
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| | AI349614, AV681638, BG108147, AI349937, AV757797, BG112299, AA613907, AL513643, |
| | BG180996, AI349598, AV757158, AV756560, AL043326, AV757455, BG178809, AL515375, |
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| | AB019565, AL133075, AF106862, AL049938, AL050108, A08916, AL049314, AK025084, |
| | AK026045, AL122050, AL122093, AF219137, AL162006, A08913, AF113019, AF017152, |
| | AL080137, AK025958, AL133557, AK026855, AL133080, AL096744, AX006092, AL133093, |
| | AL137283, AX019230, AL050277, AL080124, E07361, AX019229, E03348, AF119899, |
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| | Y11254, AJ000937, AF111851, AL117394, AL122123, AR011880, AK027096, AL137459, |
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| - | AL110225, AB048954, AF271350, AK026452, AF079765, X82434, AB051158, AK000083, |
| | AF242189, AL359941, U00763, AF130099, AK026647, AK000445, AF177401, AK000137, |
| | AK025092, AK026583, AR087170, AK024538, AK026480, AF017437, AF119909, AL049464, |
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| | E07108, AL117585, AK026927, AJ238278, AL359615, AK027113, AL137550, AX042059, |
| | AF225424, AK026532, AK026534, AL049300, A65341, E02349, AF130077, AK000614, |
| | A08910, AK026959, AB049892, AL049430, AF067728, AF177336, A08912, AF130110, |
| | AKUZ6086, AKUZ5391, AKUZ6353, AB04/904, AKU00432, AF130066, ALL133258, ALU30024, |
| | AKU25414, ALI1/435, 133392, AXU26824, AXU26823, A38524, A38523, ALU49382, A7U065, ALU1682, AKU5647, ARU7647, ARU7704, ARU77164, ARU77164 |
| | ALIBORE, ALVELOUE, ALOUADIT, TENEFIELD, ALVELLOT, ALVELOUE, FENEROLOE, FELICIES, FELICIES, |

| | | | | | A12297, AL122110, AF116610, AF119871, AB052200, A03736, AC002464, AF118094, AF130087, S61953, AK024524, A08909, X65873, AL137648, AK026528, AL133113, Z82022, and AF183393. |
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| HE8TE40 | 68 | 897862 | 1 - 1862 | 15 - 1876 | AI823654, AI961177, AI478221, AW968773, AA846576, AI480402, AA584298, BE560551, AI813657, AI760644, AW247012, AA887179, AA868607, BF980116, BE961977, BE550998, AW969507, BE5599619, AI651566, AA579655, AV686107, AW969502, BF436325, AW969507, BE559619, AI651566, AA579655, AV686107, AW969502, BF436325, AW969502, AI5215827, AW292126, BF223222, AI990156, AI499865, AA722980, AW250215, AI671762, AI680670, AI948722, AA490858, AA503731, AA732307, AW969802, AI222519, AI004530, AA639529, BF798411, W96184, AA513845, AL532268, AI681727, AA768695, BE765188, AI147101, AI205178, AI269686, AW291809, AI393299, AA737590, AA528328, BE065291, AA764868, AI867123, BF095791, BF821814, BF380983, BE151798, BF380986, AV654488, BF990264, AW969515, AA809950, AW269244, AW300193, BE693372, AA689267, BF590473, AI694125, BE962424, AW955586, AW95148, AV703103, AV702726, C15737, AV702189, AV702148, AV702148, AV702168, AV705217, AW963940, AW950675, AW954772, AK026201, U19181, AC025263, S79539, and A84916. |
| HNTCH73 | 06 | 900546 | 1 - 1555 | 15 - 1569 | BE877424, BE612406, BE867398, BE873237, BE512843, BF983505, BF984185, BE304524, BE871951, BF983498, BE962323, BG248621, BF984535, BE870587, BE872539, BG108575, BE873272, BG026835, BE868837, BF434094, AW362700, AA777371, AA479141, BE512742, D51188, AA479140, BE740078, BE869477, AA468551, BE304763, AA463224, BG248254, AA576646, BE617281, AI312731, AA584413, AI886718, BF982469, BF928257, BF928454, AA57550, AW753810, BF810890, AA730073, T54230, AW362572, AA4333903, AA358807, D51376, AW753502, T28171, T54134, AW950374, AW362081, BF926988, AI129853, AW609632, AW378785, AW390826, N86263, AW390848, AW815472, AW379982, AW378783, AI748892, BE868305, AI034316, AW191034, AI219728, AW148594, AW389490, F04809, BF768876, AR031483, 108631, 178457, AR075479, D30751, 111746, AR075485, U43842, AF042497, AF136233, Z22607, X56848, S65032, E04737, L47480, D14814, E03671, AR075484, and A91867. |
| HFBY53 | 91 | 902534 | 1 - 956 | 15-970 | AA346699, BE897269, BG109478, BG178294, AV718692, AV723772, AV708119, BF883916, BG179993, AI370129, BG108324, AV755207, BE047863, AL514935, AI349772, AI500077, AL513643, AI436456, AL036396, AI687376, AL047042, BF343172, BF037097, AV655645, AL119049, AL036802, AV681857, AW827211, AL514627, AW827203, BG036846, |

| ALD46849, AI702406, BF727212, BE969709, BE048071, AV757737, BE048163, AI475371, AL153661, AL513907, AI43157, BE78253, AL513907, AI43157, BE78253, AL513907, AI21370, BE964812, AV828611, AV756770, AL119791, AV682224, AL119784, AV82861, AV756770, AL119791, AV682226, AV119784, AL153661, AV75943, AL1036146, AV7711924, AV682266, AV74928, BE368552, AV682351, BE880190, BE613622, AV682294, AV771934, AV77397, AL1365, BF969494, BE08208, AW303152, A1606871, BE18383, AW071349, AV773101409, AV773937, AL674708, BE79240, BF7220, BF72208, AV773397, AL57209, BF72203, AV68831, BE18404, AL04763, BF7728, AL04500, BF72311, BE048026, BE1970162, A1538716, BE793644, BE965556, AV682441, AL57391, AV743418, AV73347, AL573897, AV73397, AL513801, AV743418, AV734318, AV734701, AV735811, AV75581, BE968222, AV77319, BF77209, BG107847, BE968179, BF77209, AV681867, AV75810, AV758806, AV861897, AV774318, AV681957, AV681957, AV681957, AV681957, AV681957, AV681957, AV681957, AV75810, AV758806, AV775806, AV775807, AV775806, AV775807, AV775806, AV775807, AV775807, AV775806, AV775204, AV775807, AV77481, AV77482, AV774807, AV774820, AV775807, AV774820, AV774809, AV774409, AV77440 | |
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| AF113689, AL133075, AB047615, AL122050, 189931, A62298, A08913, AF113677, X84990, AX019230, AL050149, AL162006, AB050510, U42766, AX019229, AL049466, AB041801, AL050116, AK025339, AL050108, AK026045, AL162083, AF119875, AK025084, AL122093, AL049314, AK025958, AL096744, AB019565, A84916, A62300, AF113699, AF113019, Y16645, AL133557, AF219137, AL050277, AF119899, AR011880, AL080137, AR018138, AF017152, AL030124, AX006092, Y11254, 148978, AK026744, AK026855, AL133080, AR070327, AL133093, B03348, AF111851, AL389982, AL137283, AK000618, AX027925, AF116649, AL122121, AL137459, AL137557, A1000937, AL133565, AL122123, AF207829, AF116649, AL122121, AL137459, AL137557, A1000937, AL133565, AL13753, AF077829, AR097996, AJ132110, AF158248, AK025683, U91329, AL137550, AL04930, AL1173550, AL04930, AL1173550, AK026542, AF125948, X82434, B02349, AF271350, AK000652, AK026647, AB048974, AK026592, AL135940, AK026452, AF130099, X67155, AL117583, AB051158, AK026542, AL137583, AK026452, AK026642, AK026633, AK0261518, AK026642, AK026633, AK026534, AK026823, AK0268 | AL528314, AU130887, BE780963, BF966718, AL118570, BE739397, AU126476, AU139315, BF512830, BG115027, AI908306, BE880693, BF540985, BF791388, AU122664, BF035925, BF512830, BG115027, AI908306, BE738855, BG120429, BF129883, BF057158, AW959181, AV724420, BF106186, BF966523, BF213412, AL042137, BF211302, AI042351, BF206917, BF031857, BF515714, BF131974, BE514139, AV696443, BF037314, AW130577, BF129874, AA424461, AV661523, AW130565, AU127429, BF677116, AA902916, AU150429, AI239435, BF665735, BE155330, AV705068, BF212900, AA983275, AV710135, BF432386, BF211687, AA461260, BF057834, AA312396, AI627321, AI160503, N63373, BE502195, AV751301, BF184200, AI884925, BE559625, BE468064, AA186321, AV750990, AA749086, BF513143, AA678020, AU150014, BF184441, AA113363, AI761107, AI457727, AW341372, BE674349, BE270920, AA888970, AA580858, AA649198, AV649723, AA100701, H24854, BE836719, AI1819134, AA199866, AW025691, BG010680, R77878, BE0890036, BF792719, N41679, N56631, BF923482, AW779309, AI218982, AV751002, BE089649, C17343, R81295, |
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| 832883, AA088766, AA358792, AI269641, F445639, 3, AA358708, A730781, 870583, A L528313, B LG028138, AV748843, AW166705, 3749, BF508221, AB018353, | , AV746302, , BF034426, 49, 49, AI655012, AV746250, 4, AA446510, 781772, 1, AI44568, 19, AA4457374, 1, AI44568, 10, AA457374, 1745322, 1257, N71208, BF913258, 3908602, 526787, AV684596, 105944, |
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| 6875, H06000, BI 3053, BF849176, 7, 3262777, H99315, 888732, D78877, 25194, N88500, B 513547, AW47275, 73, AV750235, A 74, BE169235, A 74, BE169279, Al 48833, AA34700 4W993917, D624 55971, AV749018 78900, AI886543 78900, AI886543 1083, BF914380, 5765, AA113444, | 01562, BF343559 725404, BF035547 W291377, BF3408 W391377, BF3408 W391377, AV74625 W43173, AV745498, S927, AV745883, AV745883, AV745883, AV745883, AV745883, AV745883, AV745883, AV745883, AV760821, W055226, AW966 |
| BE646243, AA502426, BF081703, R11716, AW594429, BE676875, H06000, BE832883, BE931964, AV703744, BE720186, BF748564, T09412, AA460953, BF849176, AA088766, AW021533, AI265945, AV751157, AA437111, AA336899, BE262777, H99315, AA358792, BE155518, BG166471, BE270762, BE313275, BF239379, AA888732, D78877, AI269641, AI469067, AW874055, AW338714, T89695, AW874611, BE825194, N88500, BF445639, BG011279, AW058314, BE677169, AW139207, R17691, AW513547, AW772793, AA358708, AV660383, AI765491, AI582998, T31819, AI084965, AA598573, AV750235, AA730781, AA056000, AA322246, R08530, D61165, AA716555, BE972774, BE169279, AI870585, BE615699, AI870612, BE169269, AA333655, AI678506, AA648833, AA347000, AL528313, AA360932, AI763357, AI652881, BF088332, BE327501, AA055971, AV749018, AV748843, AA360932, AI763357, AI570710, AA004833, AI685231, AA178900, AI886543, AW166705, T89515, BE812457, AI769397, AI369907, AA199752, BE701083, BF914380, BF508221, BE838996, BE707763, AV646433, BE819207, AV651409, T25765, AA113444, AB018353, AK025737, AK022816, AF202724, AX017520, and AK022469. | AL536179, AL533946, AL533947, AL537797, BE613134, AI401562, BF343559, AV746302, AW961160, AI928515, BF966793, AV723437, BF526420, BF725404, BF035547, BF034426, AW953303, AV751398, BF940225, AL037012, AV722341, AW291377, BF340849, BG167789, AA446330, AV745305, AI92480, AI332363, AA443173, AV746253, BE326680, AI924756, AI989804, AI089825, AI423344, BF343626, AW264140, AV745498, AI655012, AV745305, AI418141, AV745442, BE783669, AI831023, AI815927, AV745498, AI655012, AV745317, AI18141, AV745442, BE783669, AI831023, AI815927, AV745499, AA446510, AV724999, AI050790, N51854, BE612567, BF530507, N62627, AA131865, AA781772, AA307598, AA349403, AI143672, AW161966, AA148523, BF529438, AI625601, AI445688, AA307598, AA349403, AI143672, AW161966, AA148523, BF529438, AI625601, AI445688, AA448774, AW051680, AW892804, H08939, AI262177, AW296899, AA604202, AA719581, AV746088, T33816, R26136, AA781761, Z40260, AA912327, AL135377, AV701257, N71208, AA018269, AV732497, AW291641, AL138265, BG056993, H88534, BE858449, BF913258, BE244558, AV746063, AW976010, AA224525, N22006, AI135124, W28157, BE908602, AA019115, AA349402, H80006, T32057, BF796439, BE273856, AV745883, AA526787, AV606447, AA984620, AA577127, H55993, AV696428, AU145083, AU147226, AV684596, AU158906, AL537887, N45466, AV691908, AV762220, AU038990, AL040921, F05944, AW600804, BG034591, AA601355, AL03602, AW079809, AW055226, AW962035. |
| 081703, R117116, 7210186, BF748562, AA4371, 276157, AA4371, 276162, BE31327, 2767169, AW1395, 2677169, AW1395, AW1395, AW1395, AW1395, AW1395, AW1395, AW1395, AW1395, AW1305, | 533947, AL53779 966793, AV72343 966793, AV72343 9940225, AL0370 7745305, A194248 9825, A1423344, 745442, BE78366 46136, AA293033 854, BE612567, 1 187, AW16197 187, AW16197 188, Z44301, H890 188, Z44301, H890 188, Z44301, H890 189, Z44301, AZ1382 1976010, AA2245 1976010, |
| 3, AA502426, BF 34, AV703744, BE 35, AI265945, A V 8, BG166471, BE 9, AW058314, BI 3, AI765491, AI5 9, AR3222246, RO 9, AI870612, BE1 3E247425, BF155 2, AI763357, AI5 8E812475, D6041 3E812475, AI74 3E812457, AI74 5, BER107763, AV | 9, AL533946, AL 10, AI928515, BF 13, AV751398, BI 9, AA446330, AV 1, AI989804, AI08 1, AI989804, AI08 1, AI989804, AI08 1, AI989804, AI 1, AI989804, AI 1, AI989804, AI 10, AI124706, AI 10, AI124706, AI 11, AW090772, AII 12, AV32497, AV 13, AV32497, AV 14, AA349402, H8 17, AA34620, AV 14, AA37887, AV 17, AA984620, AV 18, AI537887, N4 19, BG034591, AV |
| BE64624 BE93196 AW02155 BE15551 BE15551 AV66038 AA05600 BE61569 R08529, R AA36093 AA08870 T89515, E AI199099 BE838996 | AL536176 AW96116 AW75336 BG16778 AI924756 AV724999 M62252, 1 M62252, 1 AA30759 AA30759 AA30759 AA44877 T15711, 4 BF530026 BF530026 AA01826 AA01811 AW40644 AU15890 AW60086 |
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| | AA631507, AU117456, R26350, BF206005, AA584482, AW955841, AV695357, AA708108, AA577824, AI653525, A1114869, AL040521, AA836811, BF902295, AA658844, D56161, | AU145521, AA486896, AA827183, AV760760, BF836337, AI963600, AC020916, AC006312, | AL049776, AL049709, Z98745, U82828, AL035415, AC005678, AL355392, AC006483, | AL137073, AC006121, AC011462, AL133245, AC004638, AC006111, AC004150, AC011811, | AL450226, AL354720, AC009756, AF196779, AF053356, AF207550, AC004584, AL137039, | AL009179, AC008812, AP001711, AL365505, AP001717, AB023048, AC007041, U95742, | AC005998, AC005037, AC006441, AL135927, AC007227, AL023494, AC008072, AC004913, | AR036572, U91328, AC013429, AC008753, AC005082, AC006064, AC004477, AC006345, | AC012467, AL020995, AP001759, AC005516, AC008379, AC009501, AL139824, AC002470, | Z85987, AL117336, AC005280, AP001725, AP000555, AL359846, AC005041, AC006965, | AC004876, AL031659, Z97630, AL035072, AC007066, AL021978, AC008064, AL096763, | AC005736, AC005908, Z83844, AL049872, AC006130, AL139095, AL049870, AL031602, | AC007686, AL109804, Z92845, AP001691, AC010271, AC005081, AC007216, AL136295, | Z82208, AC022148, AL354696, AC009087, AL031281, Z84466, AL035406, AC008764, | AL023575, AC008892, AL118520, AC005067, AL109743, AF134726, AC023510, U85195, | AC006285, AC004971, AC005899, AC005255, AC024561, AL021707, AC004841, AF088219, | AC020906, AC016025, AL022326, AC007881, AC003684, AL133243, AL080243, AP000140, | AE000658, AC002477, AL136418, AL117381, AC004686, AC003692, AC005015, AP001748, | AC009086, AC011480, AL050335, AC006277, AC005839, AF001549, AC005632, AC016995, | AL353807, AC004089, AC010358, AP002534, U80017, AC005829, AC005519, AP001714, | AL033543, AC002350, AC004166, Z95114, AC005412, AC006241, AC006211, AC011484, | AC004552, AL356299, AC018719, AL136300, AL121655, AC005545, AL139343, AC000071, | AL022320, AC011510, AP001666, AL138759, AC005821, AC018637, Z82215, AC009247, | AC005231, AC024584, AC018633, AC004765, AC018641, AP000088, AC008040, AC002429, | AL445483, AC005747, AC006958, AP000228, AP001720, AC004531, AB023049, AC025435, | AC018720, AC009032, AC004408, AC004039, AC007011, AC010328, AL021393, AC005567, | ALU31447, ACU02420, AP001694, ACU09600, ACU03696, ACU21016, AC004707, ALU24498, | ACUITS40, ALIZ1823, ALIU9/9/1, ACUUS484, ALU49830, ACUU4820, ALIZ1032, ACUU4933, | ACU030/1, ACU06/99, ACU0620/, AF106/81, ACU20003, AFV00302, ACU07352, ACU07043, | ACCOCCIT, ALVEZZIO, ZF7Z33, ACCOCTZZZ, ALVZIOCC, ALICOCZZI, ACCOCTZO, ALVZZIO, ALVZZ | AL009181, AL022238, AL121845, AL031589, H62317, AC012318, AC010422, AC005018. | AC005666, AF141309, AC009314, AL031685, AC006077, AL109984, AL133163, and | AC021068. | BG170880, BE927964, AW954276, BE927869, BE927822, AW386244, BE927879, BE927863, AW750978, AI630917, BE927870, BF724110, BE927940, BE927963, BE927825, BE927858, |
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| HOFNG28 | 8 | 908746 | 1 - 1612 | 15 - 1626 | CATACOLOGICA, TATOLOGICALE, CATACOLOGICA |
| HOFOB27 | 96 | 911947 | 1 - 1919 | 15 - 1933 | AW961869, BE077141, AW578424, BG255499, BF954315, AI261629, BE077135, AI148063, N36589, AI261572, BF802132, AW937843, AA426509, BF773463, AA432239, AA297161, AI149643, F12840, AW085552, AI261573, AW964755, AA086106, T74733, AU117446, BF155382, AA190566, AI800802, AV721960, AW863367, AW44435, R05875, AA252523, AW964780, AW959892, AI016747, T08225, BF195133, R10564, BG112973, AA312028, AI149199, AI370265, AI299757, BF514106, AI951761, BF765034, BF961480, BF745812, AA339807, BF961798, BF830434, AW381253, AA297204, AA193676, AI361910, AI565510, AI863790, AA252555, AI279364, AI379019, AI300980, AI431499, AI815225, AI364355, AI074659, AI94214, AI802120, AI351937, AI858581, AI864392, BE671413, AW075432, N55650, AW117663, BG057105, AA041199, R10154, AA227453, AA427655, AA424370, AA243514, AI610249, AA041436, AY008763, AL050283, AY008764, AF194031, AK000923, and AF175325. |
| ннвнл45 | 97 | 913831 | 1 - 1633 | 15 - 1647 | BG169391, AW949561, AI310200, BF339286, AI302098, AI654459, BE729449, BE536951, AW968438, BE389695, BF665529, BE277374, AA625808, AA427852, AU154551, AA458825, AU151326, AA428109, AL120902, BF571546, BF222142, AA612971, AU130187, AU126787, AI347584, AI086482, N30370, AU157337, AI271968, W76546, AI688046, W74351, AA807857, BF678409, N95347, H18070, N79725, BF209686, AI347617, AI583445, H09608, AA804327, AA838452, H09609, AA164432, T09029, AW572063, BF337241, AA164431, W76465, BF810348, AI654258, F09074, AA192488, F11408, W72228, W25256, AV686355, AV685242, AW591780, AV693138, AV694239, AV684641, AV697086, AA527521, AV693125, AV68337, AV695338, AV685230, AV695077, AA873514, AV693125, AV693135, AV695307, AW302777, AW302777, AR33333, AW301841, AI318573, AW274307, AW302778, AI343199, F04295, AA459016, AA070813, BF799492, AA133507, AA887062, AA581050, N59845, BE181676, AA873503, AV711509, AL513397, AW301409, BG179993, AL513307, BG104782, |

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| | AV734318, AV758110, BG058208, BF724691, BG114104, AI207510, AW827249, AV723772, |
| | A1868831, AW162071, A1064830, BF795712, AV756477, AV729890, BF793187, AI349645, |
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| | | | | | AW675411, AI090291, AI283114, D81907, AI417561, AA427677, N66098, AA043792, |
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| | | | | | BF322331, T39804, D62361, AW149169, AW089455, T39783, BE618245, AA328062, |
| | | | | | AI220712, AI925346, H83314, AI668846, T40872, D78824, AI932606, R77568, BE782129, |
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| | | | | | AW796258, AA455387, AA292619, AA096434, BF570490, AI624981, AI749472, BF837084, |
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| | 159 | 160 | 161 | 162 |
| | HSLGF32 | HEEAH23 | HODFU73 | HNBUA49 |

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| | | | | | AI368181, BE042388, AI625947, AA160436, AA552111, AA502830, 197710, BF812178, DE082633 DE727130 DE727107 TW7813 PC002333 DC025571 DE014747 DE014665 | |
| | | | | | BE871206, AW117966, AA715308, BE838489, AW392656, BF764625, AW291547. | |
| | | | | | BE714141, BF754423, AW362652, BE714142, AW087246, AI682601, AW389752, | |
| | | | | | AW375948, BF737124, AI700409, BE827597, AW074322, BE899333, AI824247, AW375934, | |
| | | | | | AW366796, BF772249, BF882777, AW178433, BF843569, BF834553, AA300230, BE564406, AW794470, AW275087, AW275089, 1147409, 1158004, 1158011, and A COURSON | |
| HHESX72 | 164 | 979468 | 1 - 467 | 15 - 481 | BF797761. A11130033. BG258778. A11119794. AW965889. BG028456. BF970462. AV728480. | \top |
| | | 2 | · | 2 | AL522193, AA315962, BE786036, AW960384, AV715388, AU131704, BE695281. | |
| | | | | | AU132895, BF219071, AL536015, BF184112, AU129283, BE729622, BF696698, BG167039, | |
| | | | | | BF034416, BE695309, BE265086, AA319546, H97758, BE544565, W90369, BF332962, | |
| | | | | | AW408349, AI078747, N59486, AA359114, R09724, AW242801, AI765280, AI990488, | |
| | | | | | BE244651, H22047, AA085546, AA091085, AL521415, AI858033, BF111619, BF061858, | |
| | | | | | AA776634, AA359816, N56221, AW602190, AI040358, AI248524, BF792722, T18889, | |
| | • | | | | T70782, AW057675, T18872, BF906431, AI633892, AW205883, AW872943, AK023053, | |
| | | | | | AK021905, AC005189, AK023007, AK001665, and AL049758. | |
| HOCPY88 1 | 165 | 979547 | 1 - 1395 | 15 - 1409 | AW004023, BF690205, BF791885, BG029479, BF000545, BE047000, AW977945, AA909986, | |
| | | | - | | AU151274, BF512375, AU147671, BE350857, AW467591, AA142943, AA811324, | |
| | | | | | AA150646, AW468491, BE672409, AI301026, BF689816, AW845190, BE392310, AW514680, | |
| | | | | | A1984280, BE140523, BF229544, U53081, D20997, AC006544, AC003065, AC005033, | |
| | | | | | AF035299, U70987, AF180527, and AF229166. | |
| HOGDC64 1 | 166 | 999626 | 1 - 1794 | 15 - 1808 | AA868550, AL530411, BG254611, AW954131, AI201166, AW193909, BG151533, | |
| | | ı | | | AW084462, BF791908, BE260095, AI922273, AA523858, BG260949, AA781100, AW105220, | |
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| | | _ | | | AA897529, AA193192, AA629069, AU147852, BF979856, AA858423, AA425360, BG149247, | |
| | | • | | | AA908794, AA778624, AI686401, AA393835, N72685, AA868129, AA923361, AU148101, | |
| | | - | | | AW183908, BE206598, AA075361, AA580324, BF743368, AI357135, AA926834, BE670517, | |
| | | | | | AI803714, BF197076, AI284934, BG116362, AW983892, AI284936, AU154733, AI130025, | |
| • | | | | - | AA/586/16, AA90/260, AA311449, A107/310, A1298616, AA/06885, AA969247, A1457308, | |
| | | | | | BE045930, BF743297, AI418560, BE219395, AL043460, AA861359, AI720212, AI342423, | |
| | | | | | AA468338, A1936296, AA075362, AA454947, A1458647, R37961, AW246825, AA136701, | |
| | | | | , | AW60/431, BF/43315, AA548507, AA973365, AA053135, A1659588, A1925822, AA425566, | |
| | | | | | BE439633, N68585, AA834427, AI635130, AA167347, BG164125, AA431980, AI264546, | |
| | | - | | | AA431903, AA1/0333, AA/48183, AW/30633, AA989323, BF223330, F316/6, BE233169, A A 489330 A WORDSY NAFAR A A 760373 A 1008673 A A 004754 A WATAA7 E D 52507 | |
| | - | | | , | AAA406333, A.W.230323, MAG206, AA.O3323, AA263013, AA334234, A.W.410423, A33337, AI631110 734883 AI385063 W81103 AW090765 RF957740 AW628661 AW593166 | |
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| | | | | | AA085898, AA470660, AI758554, T31099, AA558872, R8012, AA136762, AA287687. |
| | | | | | AA115880, T86441, A1468196, H42011, AA534699, AW804206, BE070180, N46267, N90395, |
| | | | | | AW844155, AA090750, AI675960, BF247759, BE349924, AW387224, AW388763, |
| | | | | | AA916893, BF743292, AA085897, W02464, AW389016, AW388799, AA736580, AW388788, |
| | | | | | T78373, BE709036, BE782320, AI952913, BF374837, BF374374, AI133347, D19952, |
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| HSIEA14 | 167 | 980139 | 1 - 774 | 15 - 788 | AW301736, AL042667, AL042670, AV695478, AW328202, AW238341, AL538491, |
| | | | | | AA569494, AA572983, W42588, AI278972, AL120141, AI821382, BE042006, AI307201, |
| | | | | | AA501461, AA837597, AA514450, AV761433, AI753969, AA613761, H68343, BE139139, |
| | | | , | | AI250552, AV648653, AI284543, AW020612, AI689198, AV656063, AW613448, AI005613, |
| | | | | | BF917473, AI254770, AI744830, AI820534, BG030789, AI251284, AI251034, AI251203, |
| | | | | | AI223626, AI249853, AA526099, AW023515, BE138387, AA602105, AI798407, AI439393, |
| | | | | | AI690497, BE169870, AI692245, AL133519, Z83819, AC002350, AC021036, AL031733, |
| | | | | | AP001706, AC005844, AF017104, AL157372, AL117341, AP000073, Z84487, AC007282, |
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| • | | | | | AC007880, Z93341, AC011904, AP001714, AC008738, AC016689, AC008543, AC009225, |
| | | | | | AL024507, AB000882, AC006449, U96629, AP000344, AC007225, Z98946, AL050333, |
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| | | | | | AC024082, AC009060, AC005663, AL121949, AC007546, AF107885, AP002530, AC011500, |
| | | | | | AL137060, AC005969, AC005216, AL031848, AC005291, AL133453, AL353802, AL078591, |
| | | | | | Z98742, AC002418, AC004386, AP001728, AC013429, AC018513, Z83843, AC002303, |
| | | | | | AL139826, AC005703, AC008008, AC003042, AL033381, AC005332, AC007938, AL121872, |
| | | | | | AC006121, AL138755, AC073574, AC011311, AL139109, AE000658, AP001725, AL138828, |
| | | | | | AC009236, AF196971, AC002429, AC009016, AC012156, AL157791, AC004847, AL109743, |
| | | | | | AC006160, AP001712, AC007486, AL157413, AC005352, AL109923, AP000692, AC005386, |
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| | | | | | AC025442, AL117333, AL136979, AL050317, AC008750, AL359704, AL031681, AF027390, |
| | | | | | AC004743, AL008732, AC009501, AC007690, AC005562, AC078889, AL355886, AC009238, |
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| | | | | | U80011, AC004829, AL133153, AC027689, AC005069, AC007376, AC009953, AC018684, |

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| HSPSY43 | 891 | 980269 | 1 - 2040 | 15 - 2054 | BF570186, BF570180, A1088647, BF569195, BF970112, BE878705, AL535894, BF569896, BF340266, A1810738, BF530956, AV725665, BF342973, A1692873, BE271105, BE857228, A1927745, AW615420, AW151706, AA604247, A1635900, AW939256, BE857228, A1927745, AW615420, AW151706, AA604247, A1635900, AW939256, BF690190, AW664391, AW139560, BG110726, AW874658, AW993371, A1814903, BF690190, AW664391, AW139560, BG110726, AW874658, AW993371, A1814903, BF690190, AW664391, AW128801, AV728400, AV728873, BE349042, AV728810, AA288810, AA288810, AA28809371, AN8191295, AG1079706, AW815349, AM615553, AV709840, A1355025, AM815349, AW615553, AV709840, A1355025, AM815349, AW615553, AV709840, A1355025, AM815349, AW615553, AV709840, A1355025, AA633395, BE162623, BF6277023, AA588810, AA288097, AA633395, AN615553, AV709840, A1355025, AA633224, AW469170, BG057112, H01864, AW880763, AA937395, AA3524213, R59225, AA683224, AW469170, BG057112, H01864, AW880763, AA937395, AA3524213, R59225, AA683224, AA362477, H49709, H27022, BF874105, AA937395, AA3524211, BF874252, AA350341, AA3360264, AA324212, AA354212, AA354211, AA350057, H20777, BF992804, AA287774, AA114108, AA353833179, AA354216, BF447502, T15660, BE833364, H28112, H01863, R86196, AA487774, AA114108, AW385117, D51308, AA350426, H61226, H85695, H40957, R44085, D51433, D53774, W07855, R78317, BF868560, BE714884, D54618, T52550, BF923220, R33264, BE208564, BG5144, BE812147, BE312113, AW058016, R33119, AA33642, BE312379, R28604, R48570, H30153, AW345133, AA33642, BE833305, AA336425, AA33642, BE833305, AA33642, BE833305, AA33642, BE833305, AA33642, BE833305, AA33642, BE833305, AA336403, AA33642, BE833305, AA336403, BF923221, BF84403, BG05503, BE833305, AA3364346, AA33648, BG015610, A108674, BE812377, BG25221, BF84403, BG05564, R48570, H30153, AW945153, AA336733, R28687, D51827, R50936, BE707678, R48570, H30153, AW948153, AA336733, R28687, D51827, R50936, BE707678, R48570, H30153, AW988109, BF753805, BE333079, H30557221, BF85656, T60235, BE833079, H30574, AW883909, BF753805, BE833079, H30557221, BF85656, T6 | |
| | | | | | BF445655, D52027, R69383, AW298249, BF844409, AA317457, D51335, BF844405, R46848, H30776, AA747462, AI583318, AW800460, F10359, AA345500, W23224, R44794, BF844410, R42513, AA809531, R47759, BE019728, F07289, AW950062, BE771559, N44157, AA373489, BF093102, AW885353, N69784, AW885226, BG007722, AI358239, BF771401, R23314, R28550, BF933179, AL110273, 105243, U83867, X90845, 104828, X86901, AF084186, | |

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| | | | | | | | | | | | | | | | | | | | 15 - 2442 | | 15 - 1233 | | |
| | | | | | | | | | | | | | | | | | | | 1 - 2428 | | 1 - 1219 | | |
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| | | | | | BE673760, BE673856, AW087574, AI630546, AA062563, AI969069, AI309588, AI266070, AA987983, AI675830, AA960973, R01958, AA973643, AI990363, BE671742, AI741149, AW138983, BF874358, BG057469, Z63217, Z62190, and Z54706. |
|---------|-----|--------|----------|-----------|---|
| HCFOF82 | 171 | 981272 | 1 - 1549 | 15 - 1563 | BG026326, AW966939, AW967551, BE737753, AI435412, AA250982, AA811466, AI376343, AI081045, AI742225, AA131095, AA131031, AI942351, AI341938, AA489627, AA993407, AA489728, AW473525, AW268683, R91619, N98926, AI085828, BF082425, AI168315, T78254, AA250983, AA320897, AA454806, BF935477, AW380400, AA864917, W31152, AW514550, BE003760, and AL133558. |
| HOCMT79 | 172 | 981309 | 1 - 1580 | 15 - 1594 | BE798445, BE304432, BE731636, BE897199, BG255861, BF979006, BE812965, BE728469, BF128024, BE263640, BE727056, BF358932, BE206746, BF942861, BE540525, BF311992, AW362926, R67305, T33893, AW945345, Z46204, AA324589, AW965329, AW965323, AA324404, T80030, H50913, AA281511, AA333367, BF381111, BE816128, T08567, BF991518, R18797, AA332977, AA687499, BF946438, BF822854, AA223464, BE796302, BF917604, AW392506, AW601333, AW372325, AW601316, AW601334, AW372336, AW392504, AW392506, AW372308, AW372323, AW601317, BF725792, AR087892, U32575, and AF055006. |
| HKAE103 | 173 | 981319 | 1 - 452 | 15 - 466 | BF342305, BF972034, AV702899, BG250659, BE875013, BG255188, AW732994, BF969129, BF973001, BF130310, BE779851, BE268549, BE783925, BE272577, BG024907, BF127762, BE784922, AI751567, AI138643, BG027985, AI564787, AI131276, AA010288, BE464595, BE858428, AI810680, BE256739, BF431981, AI312112, AI659460, BF964885, BF038601, AW614586, AI918066, AI421103, AA159852, BG036944, AA143643, AW131612, AA577700, BE170902, AW418672, F29120, AI885777, AI540181, AI889585, F36716, AB037839, and AF006043. |
| носроз1 | 174 | 981593 | 1 - 1686 | 15 - 1700 | BF344523, BG120897, AI928341, AW026244, AL119974, AW003141, AI953528, AW004077, AI803375, AW001409, AA716616, AA425741, AA677488, AW594550, AI193181, BE349215, AW795298, AI262269, AW297973, AW592480, AI042286, AI436208, AI126751, AI149281, AI167937, AI187153, BG006418, AA885372, N53016, AI962663, AI143577, AW242268, AI049776, BE677119, AI818483, AI272839, AA595397, AI032066, N78497, AI742227, AU134204, AA938952, BE041590, N128839, AA595397, AI187185, AI986359, AW152033, AI032095, R77880, AW128839, AW594571, R94775, AA806624, H224559, R64451, T09483, R94950, AW957178, AI252768, H17531, AW193712, AA057787, BF061972, AW596092, AI435183, H00177, AW340042, AA535123, AW079257, AA834425, AA595382, AW662791, AI949751, AI968910, AI806704, AI954639, R39530, T77481, BE737906, AW401504, R55754, BG058398, AI802542, AI440239, BG110684, BG179993, AI869367, BF527014, BE048026, BF725868, AL036631, AV715331, AW071417, AI500077, AI269696, AV650703, AV682479, AI758437, AW087445, AV715263, BF868489, AW071349, |

| A 1770055 A 1608036 A W877740 A 1 135661 BF707740 A 1577676 A W303157 A 1497733 |
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| AV682787, BG260037, AL040243, AI934036, AW301409, AI682743, AW129659, AL513999, |
| AV729890, BG164371, AL119863, AV757455, AI702406, AI679504, AV652906, AL079963, |
| BE047852, AW104724, AA640779, AI281837, AL045500, AI309401, AI564719, BF054877, |
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| AW026882, AV757/37, AV733470, BF885675, AI345735, BF812938, BG109270, AL514085, A1434157 A1036145 BF812961 AI811344 RE048071 RF781369 BF036115 BF724691 |
| A1349957, BF793644, AW274192, BE887488, BG165051, BF726451, BF726421, AI567360, |
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| AI349614, AI812107, AL119828, AW170635, AI281779, AI538716, AI349004, BE884130, |
| AIS69583, AI285826, AI312152, AL515191, BF971016, AV717295, AV755415, AI349937, |
| A1499131, AW268253, AI633308, BG114248, AV755668, AI863014, BF343172, AI567351, |
| AI620284, BF872670, BG107847, AW089572, AI348897, BG180996, AI862144, AI500659, |
| BF793324, AI862142, AW090013, AI207510, AV758110, AV713079, AV733397, BG112879, |
| AF038203, AF217798, AF290472, AF015037, 148979, 189947, AB052191, AF116631, |
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| AL050116, L31396, AF078844, L31397, AF113019, 189931, X84990, AL110221, AX019229, |
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| Y16645, AF130075, AL050393, U42766, AL133606, AF106862, AB048964, AK025339, |
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| S68736, A93016, AK024538, AF119909, AL133557, AF116639, AF130105, AF138861, |
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| AB047615, AR087170, AF113676, AL050146, AF146568, AF119878, AF113699, AL133560, |
| AL390167, AL080124, AF219137, AF116602, AF125949, AL050108, AK026045, AK025958, |
| AF118064, AX046603, AL050277, AL110225, AF090896, AF113689, AK026741, AK025092, |
| AK026865, AL080060, AL133565, AF130066, AF119899, AL049938, AL133080, AL359596, |
| AF130092, AR059958, AL096744, AL080137, AK027116, AR011880, AL359618, AF130099, |
| AK000445, AK026534, AK026542, AL117394, AK027113, AL122123, AB047904, AF207829, |
| Y11254, AJ000937, AK000083, AK025491, AL117585, AX006092, AB051158, AL389982, |
| A08910, AK000131, AL049466, AK026432, AL339941, AK026533, E03348, AL030024, |

| | | | | | AK026744, AF017152, AF242189, AF116649, AL353940, AK000618, AF130110, AK026608, AK026592, AF314091, AF091084, AK026504, AF177336, AK026784, AK026927, AL122110, X63574, X82434, AK027096, AF116682, AL117435, AF017437, AK026959, AF111851, AB048954, AK026532, AK026647, AF116582, AK000652, AL049464, AX026824, AX026823, AS8524, AS8523, AL133093, AK026583, AL117583, AL137550, AF077055, AI238278, AK000323, U91329, E07361, X70685; E02349, U00763, AB034701, AF119871, AK000432, AF097996, AF260566, AK025967, AL049382, AK026086, U35846, AK025391, AK025414, AK027164, AK000647, AF118094, AF183393, X65873, AK026528, AB052200, AK026947, AF130077, AF116610, 133392, AF116654, AK026480, AF260436, and AK025484. |
|---------|-----|--------|---------|----------|---|
| HAOTG88 | 175 | 981606 | 1 - 807 | 15 - 821 | |
| HVCAH21 | 176 | 981768 | 1 - 746 | 15 - 760 | BF316070, BF568141, AV758470, BF527619, BE314804, BF969586, BE409471, BE410535, AV733489, BE261170, AW157185, A1928869, BF304497, AW024568, BF971396, BF310503, BE296966, BF980412, BE408549, BE884399, BE386397, AI907018, AW440484, AA883920, BE793077, BE794471, BF206989, BE877585, AA496679, AI378856, BF311371, AI859291, BE350719, BE895663, BE885969, BE315547, BF241672, AI817825, BF731391, BF210205, BF216772, BE733918, BE887650, BE312906, BE905785, BE879978, AW516581, BE387725, BF216772, BE733918, BE887650, BE312906, BE905785, BE879978, AW516581, BE387725, BF038020, BF026271, AI624337, AW72541, AW674196, BE262376, BF237436, AV710278, AV740622, BE899283, BF206520, BE76874, BF206851, BF237515, BF237436, AV110278, AV740622, BE899283, BF206520, BE76874, BF206851, BF237515, BF237315, AR886988, AV733930, AA182921, AA642996, AA306692, BF126019, AV741980, AA075399, BE263229, AA181154, BE831027, AV755250, BE205781, AL526932, BG118384, AA075399, BE263229, AA181154, BE831027, AV752650, BE205781, AL526932, BG118384, AA075399, BE263229, AA41691, F36272, AA722490, AI015274, AI860627, BF767068, AI476031, AA196855, AA130045, AA601896, AA603149, AA037796, BE792238, BF674456, AI267715, BE932205, AV744480, BF030579, AA125759, BE0710240, AI194072, AV764334, AA210871, AV744480, BF030579, AA135093, BE0435974, AA443652, AA386659, AW583010, AW744480, BF030579, AA135093, AA135005, AA386659, AW583010, AW744480, BF030575, AA136055, AA136055, AA386659, BC451073, AM525107, AM52510, BF050574, AA443652, AA136051, AW583010, AM52510, AM52610, AM52610, AM52610, AM52610, AM52610, AM52610, AM52610, AM52005, AM50605, AM50605, AM50605, AM50605, AM50605, AM50605, AM50605, AM50605, AM50605, |
| | | | | | BF 184413, AA6508 76, AA4 78103, AW 270117, AL52 7096, F25881, BC111 7450, AA05150, BG028557, H49982, BE005862, AA187382, AW270600, F24478, BE792009, AA076185, BF091615, AW371216, AA725739, AA878729, N30376, AA365073, AA602423, BF091064, F24829, AA484666, BE870423, AA885827, AA745043, BF091625, AA156093, BE044822, |
| | | | | | BF375830, AA398035, F27966, F34663, AA861214, AA085547, AA371299, AA992886, |

| 41194071, AA385118, F27814, AA300065, F22266, | 154, BF733185, AI468223, | 33 AI201340 AA368477 | 6, R21219, AI630052, | 090, AX014836, AC008085, | AA197104, AA213438, | 02, AA481825, AA433825, | | 2925, AI690904, AA418407, | 218, AA772167, AW771435, | 26, AW952787, AI689738, | 1323, AI360089, BE440106, | 504, AA410416, AA976077, | AI801467, AI560863, | 3172, A1094972, H22670, | 58, N39575, W27237, | 17, AW803238, AA351859, | 74, AI888644, AA151221, | 87, AI813495, AA410273, | 82, AA340324, AA044269, | 71975, AI140110, | 5, W32606, T66931, | 5, AW138501, BF527602, | 991280, AI985395, | 7, AA991278, H27505, | A364215, BE719110, | 5, AA84/093, AA33694/, H04326 AAA44160 | R AT198091 W96350 | A847337, BF735896, N72776, | AA436364, AA652885, | JI810464, AI927142, | , AX015375, AL162074, | 02700 BF666138 A1917287 | 04/00, Lt 0001/00, fat/ 1/00/ |
|--|---|--|---|---|---|---|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|---|---|---|---|--|--|
| AA729149, AA125927, R21220, AI309129, BF083672, F28738, AI194071, AA385118, AA522760, H50024, BE938043, F34023, AA075894, BF957591, F27814, AA300065, F22266, | BF088891, AW878387, AA928593, BG116587, AA366973, T64054, BF733185, AI468223, | AAU37/93, AA988828, ALZU1348, F18133, 183727, BE923028, BF733197, AL424377, A A 679881 A W191609 BF773420 F01150 A A 181512 BF710233 A 1201340 A A 368477 | AA070952, F34662, BF591747, AA341039, AA437360, AI659806, R21219, AI630052, | AI906509, AF044956, AF067168, AX015054, AK026538, AF261090, AX014836, AC008085, | S82655, AB000618, Y16001, T90822, H44903, R97009, N91532, AA197104, AA213438, | AA427624, AA541521, F16918, AA953278, AA447037, AA476302, AA481825, AA433825, | F00472, and AW271394. | BE739833, AV751551, BE539375, BE879961, BE619356, AA012925, AI690904, AA418407, | AW028084, BF061035, A1949671, BE219361, AA449061, A1955218, AA772167, AW771435, | AI305287, BG056669, BG122658, AI039957, AI796800, AI421026, AW952787, AI689738, | BE857334, BE797251, AW373177, AA037175, AI680796, BF001323, AI360089, BE440106, | BF438532, AI568970, BF223290, AW299760, AI948837, AA418504, AA410416, AA976077, | AI925315, N56916, AI744545, AI186166, BF344446, BE545371, AI801467, AI560863, | AI307790, AI620925, AI685502, AA931566, AW589991, AW373172, AI094972, H22670, | N44951, AW026324, AA772572, AI049895, AA449773, BE876258, N39575, W27237, | BE878083, N33168, AA469378, AW028003, AA402063, AI276817, AW803238, AA351859, | AA861181, AA938412, AW079992, AI311559, BF907727, H96974, AI888644, AA151221, | AA351860, AW139343, AW130580, W32509, AA937530, H22687, AI813495, AA410273, | AA993422, AA687549, BF941191, AI143750, W27206, AW373182, AA340324, AA044269, | AI860157, AA151220, AI370443, R48542, R53630, H14486, AI271975, AI140110, | AW593928, R12193, AW275061, W93548, AA321771, AI611136, W32606, T66931, | BF941785, AA758353, AI581671, R48627, AA398924, AA349145, AW138501, BF527602, | R96451, AW515323, AI674456, N59828, AI918973, R96452, AA991280, AI985395, | AI687472, AI268792, AA338948, BF747204, AI280425, AI370507, AA991278, H27505, | AA142905, R12929, AA410417, A1284737, T83253, W27541, AA364215, BE719110, | A1880U36, K62328, K31963, HZ/3/8, 160932, A1961564, LJ34538, AA84/693, AA35894,, DB528567 TA8226, A726A67 BB020130, A7251186, DB918515, UMA26, AAAM160 | DEJ36337, 147330, Al300037, DE737130, Al331160, BF616313, MA42220, AAA4103, HD3931 AAA36456 AAA69380 AW138557 R63437 AW118418 AI198091 W96350 | A1424187, R39917, A1868856, T10481, BE964453, BF507638, AA847337, BF735896, N72776, | T90723, AI873143, AI682149, AI419753, AI472343, AI394598, AA436364, AA652885, | T49337, BE002485, N46721, BE620017, BE622776, AI335238, AI810464, AI927142, | AA069327, BE787445, AI078649, BF987031, T11055, AI564318, AX015375, AL162074, | ABU42231, and AF099004. AI 515972 AW010556 AAD0A208 BF883513 AW015902 BF802700 BF666138 AI917287 | 1127 12, A WOLZZOV, AAVVTEVO, DECOUVIZ, A WOLZZOE, DE VI |
| <u> </u> | m < | ₹ ₹ | <u> </u> | A | - Si | <u> </u> | F(| 15 - 1948 B | <u>*</u> | A | B | B | <u> </u> | A | Z | <u> </u> | <u> </u> | <u> </u> | <u> </u> | ¥ | ¥ | B | <u>~</u> | <u> </u> | <u> </u> | ₹ Þ | <u> </u> | | | T | V | 15-1145 A | 7 |
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| AU149521, AA007410, BF791634, AA251650, AV716889, AU153411, AU151309, BF795834, AW474709, AW967661, AI247962, W58247, AI241375, AW594337, AA251538, AI492247, AI598036, N72095, W58248, AA603659, BF804913, AI431332, AA424023, AV744248, AI656462, AA664303, AW590631, AW592235, N23125, BG115061, AW105622, BF056545, A1913221, BG180121, AA886810, AA679595, AI373555, AU149339, AI380841, AW129016, Z39592, W02366, AA189143, AA777004, F02874, BE926666, AW731774, AA768164, BG122759, BE501179, N73304, BE926735, AI521225, BF737731, AA394252, AA424100, AI963833, AI282264, BG259121, AI476066, AK000638, AK024266, AF071592, AF277375, AF241316, AF179308, AI271784, AK022717, and AL133073. | F20667, AL514627, AL036146, AL513553, AL513997, AL513907, AL513999, AL513631, AL513911, AL513911, AL514087, AL514691, AL513991, AL513991, AL513911, AL513911, AL513911, AL514087, AL514691, AL513997, BE965014, AL6132631, AL513951, AL513951, AL513951, AL513952, AL514087, AL513687, AL514065, AL80077, AL04772, AW074869, BE87488, BG109270, AL513713, BF793187, AL514065, AL500406, BE047952, BF79324, AL69846, AL514983, AL56732, BG112879, AL043326, AL702406, BE047952, BF793324, AL69846, AL514973, BF817926, AL432969, AL800453, AL800433, BF825343, BG57839, BG110241, BG036846, AL515413, AW071417, BF790446, AL513703, AV681618, AL349645, AL040243, BF8819916, AL32969, AL800453, AV682252, BE969709, BG257535, AW169671, AW827249, BF8819916, AL33584, AL336049, BG110684, BG2560037, BG180996, AL045500, BE968891, AL513564, AL124924, AL724929, BE918334, AL536685, AL568870, AL494963, AL244957, AL250293, BF970162, BF724691, AV756150, AL121365, AL704337, AL434927, AL224992, BE018334, AL336903, AL536685, AL668696, AW0738730, BE964812, BE964741, AL348897, BG168869, AV772990, BF79771, AL03602, AW026822, AL736739, AL33976, AV756328, AW162071, AL281779, AL356802, AW026822, AL64207, BG110517, BE964700, AL866608, AW162071, AL281779, AL576034, AV11924, AW148320, BF370043, AL57175, AL24097, AL240731, BG168896, BF817392, BF343172, AV711924, AW148320, BF340031, AL75175, AL24097, AL569696, BF817392, BF343177, AV711924, AW148320, BF340031, AL75175, AL24097, AL569696, BF817392, BF343172, AV711924, AW148320, BF340031, AL038778, AL540972, AC56046, BE06633, AU64830, AU664830, AL6164371, BF726322, BG032208, AW089572, BG260689, BE047863, AL5409773, AL6104779, BE8760633, AL540937, AL560659, BE047863, AL540937, AL540933, AL513093, AL513093, AL514097, BE876053, AL5409393, AL513093, AL513093, AL540933, AL540939, AL513093, AL |
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| HPDWN44 | 181 | 981956 | 1 - 934 | 15 - 948 | BE742303. BE741533. BE746369. A1633237. BE563341. BE563526. BE612816. BF035914. |
| | | | | | BE880068, BE563212, BF665918, BE880096, BF970136, BE880701, AL529261, BF037170, |
| | | | | | BE315481, BF316680, AI017752, BE896668, AA431844, AA628903, BE880590, AV710748, |
| , | | | | | AIS25834, AV716869, AV733974, BE567737, BF674943, AV713981, AI979057, BF698464, |
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| | | | | | AV713390, AI935983, BF679768, AA075421; BE613381, AA156298, BF673731, AW088688, |
| | | | | | BE389957, AV735167, BE389745, AA187073, AW474971, AV740643, BF691116, AI133571, |
| | | | | | BF195619, AI684301, BF677505, AL525452, BE042822, BE709657, AW936512, AW474519, |
| | | | | | AA992934, AW189041, BE042854, AI984117, BE276272, BE393478, AW474473, BE388363, |
| | | | | | AW131622, AV734097, AW196629, AI913944, AA427596, AA187024, N30130, BF217503, |
| | | | | | D82271, A1191868, BG235916, N39749, A1923021, BG112356, AV713265, AA075422, |
| | | | | | BG259987, AW404378, BE813241, BE813177, AW149049, AW369486, AV726476, |
| | | | | | AW369495, AA442647, AA669065, AI367852, AI633284, AU132643, AA081139, AI554354, |
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| | | | | | AW512858, BF094963, AW991489, AW991644, BE813140, AA315748, AA878888, N23559, |
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| | | | | | AA069692, AW938005, AI187152, BF732743, BE176346, AI185034, AW166402, AA593797, |
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| | _ | | | | AA316517, AA479768, AA181039, AV733234, W52260, BE176396, BG012035, AV750759, |
| | | | | | AW264168, N24368, AA631420, AI923459, AW363902, AV703750, AI198050, R98410, |
| | | | | | BE179786, N59644, AW069390, AL047606, N44880, AI686995, AI090375, AL525651, |
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| | | | | | AI434356, AA169685, H53260, W05819, AI367001, AA757584, AA156678, AA317301, |
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| | | | | | AW378105, BE716145, AA335859, BE707628, AW378118, AA281403, AI312689, AA581804, |
| | | | | | AA432128, AA335879, AA890245, N35687, AI674105, T50033, AI085540, BE697023, |
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| | | | | _ | T86063, AA641500, R66319, AC005479, X67698, U25748, A18921, X78134, S77411, X85799, |
| | | | | | AL133076, AL122101, AL133655, AL133020, AL133053, AL133074, AL133049, AX040958, |
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| R74261, H15768, H42468, H42681, H43449, H60096, H69969, H71589, H85394, H98245, N28549, N40132, N40844, N54906, N78197, N99645, W32944, W38819, W46910, W56106, AA025797, AA031691, AA035536, AA130026, AA149910, AA157483, AA281356, AA532481, AA603556, AA610276, AA617732, AA627954, AA837359, N85557, AA431114, AA708116, AA725139, AA845939, T11351, AI244072, AI308158, AI220771, AI632782, AI859690, AI811046, AI950900, AW025993, and AW055299. | AL536886, AL519771, BE903122, BE906714, BF981167, AL529998, BF980868, BG110444, BE906350, BG026745, BE733132, BG118469, BE908645, BE281012, BF527761, AL529999, BF204049, BF527895, BF338699, BF527865, BF338699, BF527865, BF2346362, BG179270, AW373882, BG121683, BE902906, BF339518, BF528481, BE795781, BE797253, BE264544, BE791245, BG121683, BE99039, BE395716, BE904642, BE798297, BF129057, BE797253, BE264544, BE791245, BE799589, BF317485, AW577397, BE259895, BF337918, BE798842, AI366141, BF345330, BE798589, BF317485, AW577397, BE259895, BF337918, BE798842, AI366141, BF345330, BF915406, W79098, BF058087, BF434845, BE266716, AW245243, BE275433, AW965510, AI420864, BE501218, AW958156, N30494, AW166500, BE274757, BE562577, AA523509, W74502, AI421445, BE274734, BE542936, AA076659, AA309806, AA602391, AA947286, BG056181, AW148931, BF827786, C14268, N99361, AI367349, BE266342, N59225, AA336727, N98776, AA335239, N76692, BE648990, C14269, AI572122, AI38200, AA641497, AI634762, BE150214, AI684498, AA827390, AI27329, BE150209, W49625, AI8081813, AW206959, AW60733, BE743774, AA253401, AA079566, AI672387, N34422, AI68926, AA478017, N48657, T11147, AI365401, BF221855, AI950175, AI813446, BE673470, AW615779, AA773507, AI362447, AI242987, AW183593, BE673383, AI399691, AI738446, AI24140, AI659508, H16643, BF438348, AI651868, AI805041, AI568339, AI823968, AW451053, AW137813, AI927588, AA631086, AI699620, AA6077819, and L07392. | BE741661, BE733571, BF685462, BF984053, BE745150, AV686105, BE792465, BE901550, BE515104, BE884515, BG033955, AI052336, BE312803, BG178966, BF794342, BG036584, BE514000, BE746597, BF337890, BF038967, BE264172, AI831045, BE874094, BE910663, BE744000, BE746597, AW170205, BE544180, BF127998, AI309846, BE539160, AW160727, BE733667, BE264374, AW170205, BE544180, BF127998, AI309846, BE539160, AW160727, BF183127, AW583332, BE784901, BF671774, BF115955, AI857442, AW583701, AI560800, AA582176, BF244048, AI824142, AA485962, AW025617, AW516053, BF204148, AW439339, BE786757, BF667242, BE278628, BF130358, BF030011, AA854126, BF219377, BE271039, BE855730, AW513598, BE297318, AW439387, AW162229, BE297859, |
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| | | | | BF668293, AA843831, AA491461, BE281398, AA046960, AW080229, BE20/1118, BE383393, BE260260 BE201062, A A384500 BEA333030, A A147064, A A770180, A A88601, A1141144 |
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| | | | | AW675350, AA917888, AA315960, AI149590, AA599391, BF697377, BF218545, AA662287, |
| | | | | AA009788, AI929782, AV744141, AA676677, AA314717, AA961410, AI878965, AA281634, |
| | | | | AI688201, BF698890, AA954211, AI362751, AA929069, BF196313, AI193083, BE207789, |
| | | | | AV736143, AI083792, AA772752, AA659107, AA983589, AV742172, AI138509, BF184787, |
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| | | | | AA857870, AA503718, AV735528, AA190930, BF090320, AW058118, BE206366, |
| | | | | AA070618, AA503128, AW407757, AA047377, AV743448, BF916297, AA128677, AI056932, |
| | | | | AA503135, AA503108, AI393887, N74980, AA773467, AA855028, AA493807, AA650564, |
| | | | • | AA559223, AA190701, R99319, AA483970, BF229552, AV742823, AA658476, AV741392, |
| | | | | AA307151, AI826883, F36699, AA489572, W32721, AI143806, AA190460, AA812381, |
| | | | | BF104071, T79922, AA281695, AI194047, AA502951, AA676762, F29670, F36691, |
| | | | | AI634447, AW005735, AA856710, BF942352, AA594442, AV743031, AV735719, H96947, |
| | | | - | AV739957, AI272958, R57018, W20469, AA191403, BG119796, AI274572, AA191288, |
| | | | | AA740554, F26383, AA009897, R99413, R05797, AI748989, AA595773, AA282515, |
| | | | | BF753031, F26620, F01244, AA128767, AA320093, AA343244, BF035539, R32398, |
| | | | | AA374363, AI611288, AA374425, BF360820, AW473036, R32399, D29012, X61971, D10754, |
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| | | | | AF126488, AL096744, AL133608, AF019298, AR038854, AL117644, Z98036, AL157433, |
| | | | | U77594, AL137526, AL110197, AF205861, A12297, AL133623, AC009364, AC018643, |
| | | | | S77771, AB044545, AC004227, AF003737, AK026647, AL133081, E12579, AK026659, |
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| | | | | AL133112, AC018639, X53777, AF225424, AL161953, AK000212, AF130110, E01614, |
| | | | - | E13364, AF057300, AF057299, AC025226, AC007869, AB049892, A57389, AK026480, |
| | | | | AK026518, T57661, T59327, T87448, R25859, R26674, H03115, W05680, W25589, |
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| | 20,000 | | 2000 | AA652601, L3198b, A1539/31, A1825361, A18838/8, and A W02450b. |
| HESMM52 184 | 982197 | 1 - 2/89 | 15 - 2803 | AV651/81, AW965446, AI623305, BG105418, AV695144, AW500557, AI962601, AI816919, |

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| | | ٠. | | | AA332693, T98114, BE969752, AI377881, AI927670, W24722, AI767039, F08707, |
| | | | | | AV682040, AV681756, AV724929, AL119139, AV661953, AW805670, AI670931, AW276928, AI913173, AC026439, and F08205. |
| HJBCC19 | 185 | 982465 | 1 - 1554 | 15 - 1568 | AL529581, BF793008, AW968792, AW958616, AI005133, Z78392, AW665074, AW572797, |
| | | | | | BE910519, AA311683, AA227581, AI961773, BF311030, AL529580, AA490975, AA580009, |
| | | | | | BE857081, H15751, W88486, BE011902, BE011961, AI669828, AA378108, AA203400, A A 215739, A W207449, BF512524, N34147, and A K000516 |
| HODAA93 | 186 | 982618 | 1 - 1010 | 15 - 1024 | AU134734, AI921858, BG035733, AW503819, AW502845, AW393515, BE463976. |
| | | | | | BF085697, AW590049, AW025827, BF927064, M78377, AU135081, AW503556, AW999737, |
| | | | | | AF002223, U58032, AK001816, AJ224979, AF057354, AF073997, AF125314, and AK023451. |
| HSPSI74 | 187 | 982764 | 1 - 1578 | 15 - 1592 | AU118627, BE614379, BG109394, AI051622, BG035128, BE745111, BE747176, AU133917, |
| | | | | | AA977180, AI828930, AU133984, BE906377, AI928364, AI189753, BE621857, BE904639, |
| | | | | | BE907348, BE788794, BE879963, AI819390, AI445461, BG167065, BE790436, BG119322, |
| | | | | | AI453743, BE619041, BE621186, BE620997, BE439796, AI983655, BE908365, AI685095, |
| | | | | | BE908977, BE884393, BE613669, BE789335, BE879041, AU135866, AI633575, BF037650, |
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| | | | | | AW510672, BE546656, BG113740, BF105867, AI262930, AW372926, BF037109, AU137549, |
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| | | | | | A10909U3, AW3132UU, AWUU83/U, AW031091, A18/193U, BG1228U/, A13/139Q, BF0/49U1, |
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| | | | | | AA4/7/12, BF818808, AA8/7/242, AA/0002/, AA313188, AW901080, AII480998, AI0/7934, |
| | | | | | BE564028, AV732963, BF978564, BG169978, AW583735, AA948565, W52095, BE619741, |
| | | | | | BE961220, BF031297, AV654555, AA524526, BF687984, BE385852, BF102872, BF246934, |
| | | | | | AA088439, BF979244, AA843108, AI248307, BE156265, AW015724, AW572531, BF690647, |

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| | 985280 | 985323 | 985401 |
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| | HMVAW42 | HAGDF03 | HOPKI29 |

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| AV755462, AV756036, AF070650, AF087135, AX011701, AF086159, AR012235, AC015550, |
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| HAJCA11 196 HWAHA11 197 | 985580 77 986078 8 986158 | 1 - 1282 | 15 - 1296 | AU132390, AU124559, BE900238, BE732404, AU129885, BE080187, BE926773, BGI14454, AW500118, BE357342, AU131408, BE739187, BE782934, BE237342, AU13408, BE789187, BE782934, BE237342, AU128452, AW875091, NR060, N86017, BE295990, AU133348, AW875092, BE207209, BE037375, AU128452, AW875091, NR060, N86017, BE295990, AU133348, AW875092, BE207209, BC0027232, BE0885014, BE207209, AU103334, AA480075, BE736786, BE386983, BE385086, AI708432, BE909934, AA777273, BE900439, AA482076, AA528673, AA480075, BE736786, BE386983, BE385086, AI708432, BE909934, AA777273, AA482763, AA482076, AA482076, AA53209, AW106489, AI702436, AA6039911, AA362336, BF81819903, R72751, R72760, AA554228, AA483784, R48745, AI197789, AA364336, AA437248, BE275509, AW10489, AI703436, AA637707, AW955562, AA454864, AI310388, BE743532, AA17273, AA483784, R48745, AI197789, AA364363, AA143722, AW591933, BF57474, BE071386, BF754668, BE622797, BE071396, BE972357, AA437667, BE071302, D20583, BE729081, AX60410295, AA683784, AA82774, BE071386, BE785468, BE622797, BE071396, BE972577, BE736735, AN157296, AW386459, AU159578, AU159296, AN386454, AW386459, AV386536, AW386546, AW386546, AW386546, AW386546, AW386546, AW386549, AW386546, AW386546, AW386546, AW386549, AW386539, AW386534, AW386539, AW386534, AW386539, AW386534, AW386534, AW386539, AW386534, AW386539, AW386539, AW386534, AW386539, AW386534, AW60577, AA320205, AW386634, AU126005, AW60576, AR406777, AA332056, AW386434, AB56075, BF572742, BF70308, BE35955, AW386674, AU119855, AW605975, AW50677, AR486677, AR486899, AR486863, AU126005, AW386634, AU126005, AW60576, AR496777, AA332056, AA986754, AR4069191, AU18678, AR486896, AL126009, BE833448, AW386534, BE101481, BE816391, BF767633, AR486863, AU126006, AL369899, AR486899, AR4888999, AR4888999, AR4888999, AR4888999, AR4888999, AR48889 |
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| HNFJH73 | 661 | 986165 | 1 - 2951 | 15 - 2965 | AL135307, AV705200, BG113555, BE893152, AU140178, BE275933, BE894324, AI934515, AA716409, BF060791, BE299687, AI677871, AW954275, N29134, AI808415, AI621031, AA582436, AI923237, BG179963, AA700347, AA463830, AA825773, BE393064, BF219349, AU158345, AI831482, BE893515, AI829698, AI354807, AI041945, BE208699, AA831207, H14671, AA906989, AA460265, N29562, AA679105, H07010, N29294, AA664218, BF438401, N26851, N20226, N21171, R66676, AI14747, BE567629, R53048, AI969497, AA953469, AA976405, AW206458, AW373029, AW503770, BE407841, AA224344, BF111112, Z44255, AA878064, H54297, Z44642, BG006488, AA303163, H05459, N42173, AI206338, AA219130, AA503077, T29413, BE551030, AI805791, R53135, H54374, BF110041, AI970159, R67394, AA384950, R37379, H68011, R73097, AI081796, R68165, BE302777, AW411287, BG119446, AA918529, BE314959, BF988929, AA369756, AA295590, AI27476, R14630, Z39579, R73098, AA960999, H60931, BF212051, F01802, F03399, AA026121, BF701801, AA026205, AA722157, H14581, AA341117, H60845, W93139, AA026121, BF701801, AA026205, AA722157, H14581, AA301189, AW411286, BE220882, AS2710, BF700338, AW084882, AA219513, AA932778, N39964, X96375, X76184, AY004174, AF075706, AF075708, E06025, E06024, D12765, U35622, U18018, X63190, AF095890, X96377, and X96376. |
| HNTCH03 | 200 | 986328 | 1 - 738 | 15 - 752 | AI631653, AW514704, AI683239, AI762458, BE544805, AI952420, AI675981, AI926932, BE536677, H48459, AA780363, R99152, AI049877, AA626759, AL031672, D80008, AP001712, AP000466, AL009051, AC005156, AC006006, AC002115, AC008745, AL121825, U91323, AC025030, AL133244, AL161938, AC007883, AP001630, AC016612, AP001748, AC005531, AC004386, AC002418, AL031597, AC005840, AL159970, AC008747, AL080242, AC002978, and AL031651. |
| HSUAA20 | 201 | 986744 | 1 - 2257 | 15 - 2271 | AU125631, AU122638, AU124434, AU119564, AL521525, BG108961, AL523942, BG035161, BG251944, BG036436, BF796027, AW853573, BE898956, BG256538, BG119012, BF971387, BF038129, BF665538, BE178302, AL589375, BE292972, BE897915, AW853577, BF983057, BE178464, AI720743, BE743787, BF698180, AA576889, BF344035, BE074977, BG120570, BE074978, BE542431, AU125797, BE074983, BE927446, BF028723, AW664254, AI924017, AA622618, BF699259, AW853635, BF664182, BE773949, AV134594, BE674801, AA780625, BE764622, AW602743, BF751549, BE927448, BE773962, AI632995, AW602746, AI831228, AA127994, AA632633, BE675358, BE855875, AA830571, AW517313, AA460805, AW513297, W80991, BG029093, AA741398, BF082772, AI571048, AI141113, AA946941, AI984475, BF432650, AA652978, AI672687, AI190250, AI678469, AI092182, AA845782, BE927450, AI936315, BF334264, AI075287, BE932015, AL523941, AI597847, W81093, |

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| HHFLU49 | 204 | 987071 | 1 - 1380 | 15 - 1394 | AI860306, W27660, R52806, AW195940, AI380154, AV752306, AI174219, AI422421, AV753926, R44985, T19342, Z45051, BF313622, N50668, AA699401, AI912462, Z40782, AV754907, AA716140, AI382444, R20199, AW519215, N50758, BF831401, BG153108, AW748527, AL449781, AL449783, AL449782, AL449782, AL449782, AL449782, AL449782, AL449782, AL449784, AL449726, AI202657, AV702148, AL121740, AL031652, and S68401. BE792620, BE019329, AA485440, BE793998, AI469092, BE205890, AI191926, AW19434, AL184921, AL035775, AA455208, AW079362, BE269697, AA485606, AI089456, AI332821, AA630354, AA497206, BE798034, AI825496, AA744740, AI32667, AA855590, AA401195, AI54870, AA282165, AI453191, T28579, AA348281, R85086, C02583, BF813606, AF445147, AC022154, U48213, and D28468. BE891680, BE178297, BE178296, BE51841, BF445193, H97932, AI741806, AA778568, AW157094, AV646610, BF448214, AL268370, BE551065, AT702945, AI424098, AW451803, AI692508, AW167867, AA628493, BE645752, AA971551, AW043615, BF198015, AI83283, AI692508, AW149578, BE781170, BE51841, AI817262, BE220165, BE467572, AA971551, AW043615, BF18000, AA283186, AI781325, AA394164, AI819358, AI057105, BF448042, BE178107, BE178000, AA283186, AI78125, AA394164, AI816783, AI77829, BE178101, AW149393, BF644856, AI17870, AA88355, BF088188, AI77829, BE178290, AI869833, AI177823, AI17829, BE178290, AI869835, AI176316, AW149578, AI16116136, BF116135, AB77123, AI146316, AW197103, AB788355, BF088198, AI089906, BF116135, BF116135, AB771251, AA977253, AI146316, AW197103, AB704031, AA604031, AA604031, AA604031, AA604031, AA604031, AA604031, AA604031, AA604031, AA004031, AA004031, AA004031, AA004031, AA004031, AA004031, AA004031, AA004043, AA004031, |
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| | | | | | AA332060, BF229130, R80152, Z36959, D44840, AI692586, BE709287, AA668713, AW028893, AA935871, AI311975, AI313288, AW951403, F13013, F10610, AI910420, |
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| | | | ., | | BE180154, BF886759, BE180152, AI351256, AA745667, D62330, AI371476, AW451761, BE054866, AI 022726, 1128368, V07058, T116153, V75018, A 1001072, A 5077850, A 1001071 |
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| | | | | | AA410595, AA410596, AA436359, AA454080, AA480072, AA482617, AA709262, Z42701, A1460658, A1188065, and AW207335 |
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| | | | | | AA878230, A1828605, AW975392, AW875556, A1949757, A1803722, AV749448, AW474515, A W47470, A W474517, A W474515, A W47470, A W474517, A W474515, A W47470, A W47470, A W474515, A W47470, A W474515, A W47470, A W474515, A W47470, |
| | | | | | AW191931, AV715119, N62972, AI914731, N50836, AI784523, AA935043, AV681975. |
| | | | | | W04335, AA741240, N79876, AA814785, AW876605, AI000955, AI096936, AA767593, |
| | | | | | AA827102, AW876602, AW023275, AI014777, AA480539, BE007133, BF961785, AV659835, |
| | | | | | BG026599, AI358045, BF367902, AW340779, AW379327, AA280431, AW393163, R88194, |
| | | | | | AV749193, AW516924, AI095334, F17499, AW972832, AA527642, BE765701, AA334408, |
| | | | | | AA/45802, W03/45, AA252969, AI241826, W03/2/, K33831, AA/452/8, BEI/3119, |
| | | | | | K/3636, N/3949, Al301162, AV /49201, N/3136, AA0900/8, K/3639, K/3634, BEUU/129, |
| | | | | | N/4109, A1934211, CU2132, AW3/3393, AA233011, A13/18/3, AW013268, AB018236, AK026643, AK023740, and AF121862 |
| HTTAG03 | 207 | 987262 | 1 - 1291 | 15 - 1305 | AU130318, BG259774, AU125274, AU128855, BG256568, BG177060, BE257156, AU129041, |
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| | | | | | BF525772, BE019700, AU132416, AU127646, AA291324, BE905471, AA179587, AW503906, |
| | | | | | AW996355, BE747534, BF087827, BE709414, AW197058, W26424, BG257764, R81308, |
| | | | | | BF754332, BE256391, AU133402, M85963, AW993840, BF754246, AU125115, AW386030, |
| | | - | | | ALIZIISI, AAZU/UUS, BES9U4II, AASSZ9U4, BF/S0U8S, AV/Z4SSI, AWS/SZ/4, AUIZSS80, TOORIO DEGSSOID ATTISESS |
| | | | | | 109019, BF932016, A0133315, 131/64, A0132106, N/7133, A0142040, A0126923, A11130530 R18813 743001 A11130525 RF694460 T34180 AW075801 F13246 T34101 |
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| | | | | | T77416, T30644, H14655, BE171681, AA333145, BE887490, BG004439, BG001543, |
| | | | | | AA972641, BF895334, BG112027, T30285, R34764, R20971, AW503416, T65268, AU132457, |
| | | | | | BE719079, AV706679, BF895331, H19179, BE295342, BG252015, BE161948, AA156130, |
| | | | | | BE00/849, Br843136, AA429337, BF314313, AU120430, BF929/81, AV730829, W90493, BF841516. AA218823. H87691. AA082864. A1989432. AW843600. N56845. BF761493. |
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| 208 987577 1 - 1774 15 - 1788 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | AF015553, AC004883, AC005098, AC005080, AF267747, AC004166, AC008267, AC004867, and AC004878. |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | HNTNN89 | 208 | 987577 | 1 - 1774 | 15 - 1788 | BG031718, AW513358, BF976544, BF438157, BG032811, BF331293, BG024716, W79562, AL535366, BE884963, BG117015, AI015417, AA195361, AI168363, BF888337, BE73684, BF888657, BF75777, BF007574, BF007574, BF00750, BF007 |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | AW803215, BF835770, BF689427, BF002648, BF842552, F01241, BG256421, BF805719, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | AI460203, BG030479, BF309323, BG256560, BE763786, BG031518, BF922507, AW498536, BF882825, BF988866, BF182880, BE733066, AA452576, BE702993, AW601526, BF027104. |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | BF882823, BF083180, AA195362, BF814079, BE314540, AA343903, BE799669, BF229237, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | BG22/848, BF812/14, BG001/13/, BF229214, BF8292/9, BE//1/02, BF82/229, BE/81509, BF346947, BG003854, BE747136, BE933685, AW499012, BF527029, AA248724, BE899626, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | BG030023, BG164309, AU141520, AI075687, AW498552, BF025833, BF900113, BE173877, BE012681, BE313647, BE064306, BE767000, A 877565, BC756431, AI1118535, AT705846 |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | BE140733, A1795807, A1795845, A1834271, BE140756, A1795820, BF766160, BE278426, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | AI795809, AI816586, AI816599, AI795804, AI795835, BE140737, BE140735, AI795812, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | AI795806, BE140736, BE839312, AI795802, BE811847, AI795830, BE772922, AI834270, BE140734 BE140738 BE604678 A1705853 BE140757 BE023070 A1705850 A1705844 |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | BG031631, BE273730, BG176632, BF894840, BF981708, T12220, BE560871, BF348639, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | AA932665, BE140785, BF851195, BE777506, BF357970, AW177740, BG177284, BE889126, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | . <u>. </u> | | | | BE294313, BF984543, BE140782, BE707376, AA554454, AA706989, AW845338, BF882819, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | BE769206, AW580354, AW177756, BF966485, BF375580, AW581253, AW732883, |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | BF203759, AW732860, BE616578, BF923384, BF842532, AA452754, AW607309, BE769218, |
| 209 987636 1-799 15-813 210 987808 1-955 15-969 | | | | | | A1834266, BE168455, BE814247, BF089125, BE082661, BE769200, BF510367, A1905996, PEGGGGG, PEGGGGG, PEGGGGG, VIGGGGG, VIGGGGGG, VIGGGGG, VIGGGGG, VIGGGGG, VIGGGGG, VIGGGGG, VIGGGGG, VIGGGGGG, VIGGGGG, VIGGGGG, VIGGGGGG, VIGGGGGG, VIGGGGG, VIGGGGGG, VIGGGGGG, VIGGGGGG, VIGGGGGG, VIGGGGGG, VIGGGGGG, VIGGGGGG, VIGGGGGG, VIGGGGGGGGGG |
| 209 987636 1 - 799 15 - 813 210 987808 1 - 955 15 - 969 | | | | | | BF9/2036, BE2/3901, A31400, Z11092, AF0/3096, AF0/3099, 10/304, O1/302, M13/06, E01155, U89415, X15337, X15335, X15336, X13988, Z34849, AC002347, and X04267. |
| 210 987808 1-955 15-969 | HRADQ96 | 500 | 987636 | 1 - 799 | 15 - 813 | AI347165, BE674960, AW262846, AL524881, BF590769, AI479150, AL524880, AI765046, |
| 210 987808 1-955 15-969 | | | | | | AI954702, AI862166, AW341529, BE671360, AI979234, AA425381, BF222205, AW271374, |
| 210 987808 1-955 15-969 | | | | | | AI498382, AI350299, AW207600, BF445305, BF939315, AA971011, AA045629, AA047515, |
| 210 987808 1-955 15-969 | | | | | | A1675480, A1952656, AW136682, AW886735, R94308, AA135217, H92097, A1364888, |
| 210 987808 1-955 15-969 | | | | | | AISOOUZ4, AA0/0243, IO/2UZ, AA0033U/, AA43YYI3, AA40UIUU, AAYU03/0, AAY53U03/, A A 300006 BESOONAS AWS18675 A W760577 ADAMSA3 AI 133713 AB13476 AI 177004 |
| 210 987808 1 - 955 15 - 969 | | | | | | AJ245661, and AA401402. |
| AA374275, AI148822, AX046526, AX046525, and AB023209. | HLDCJ16 | 210 | 808286 | 1 - 955 | 15 - 969 | BF110739, AV704400, BG119539, AA905643, AA011185, AW975682, AA730907, AA736634 W70279 BG116516 BF914127 A1751939 AW963708 BF734515, A1242625 |
| | | | | | | AA374275, AI148822, AX046526, AX046525, and AB023209. |

| AV729764, AA489568, BE938598, BE535256, D63283, AW177206, AA992072, BE843894, BG108043, BE865610, AW592116, AW996479, BF920145, AW996421, BF666980, AW996637, BE568865, BF216333, BE929243, AW950983, AA355341, BF036942, X89478, and A84106. | AI203969, BE296775, AI694104, AW006595, BG259789, W19306, AI202279, AW117484, AI244102, AA360001; D31227, AW173045, W30958, D31245, W79314, AI968556, N27070, D30986, W87555, AA099257, BE550156, AI588983, AW204247, AI366748, AI805886, AI138445, AI313140, BE548140, AI458728, AI275451, AI279857, AI674281, AI431916, AW664610, AI928380, AI26934, AW303460, BE674620, AI803131, AI867122, BE221203, AI925957, AI435892, AI767332, AI218515, N99243, AW770741, AI279859, BE670348, AI379346, BE465388, AW663406, AI265771, H85592, BF110468, AA464584, AA909667, AI073818, AI243233, AA502751, AI804773, BG009489, AW779926, AI697614, AU145024, AL121250, AA889681, AC005746, U28049, AF244917, U15566, and AK001031. | BG164515, BG111223, BF112285, BG026284, BF684158, BG112559, AI741360, AI028092, BG027394, AW054930, AA843208, BF112117, BF106122, AI885734, AI086570, AA779766, AI149382, BE465615, AW131854, AI589032, AI761580, BF970936, AW338608, BG028559, BF69469, AW957967, BE535650, AI221082, AI538973, A4457118, AW305001, AA224194, N32622, BE857341, AI332782, AA574231, AW166459, AA502344, AI446132, AI333781, AA183618, AI679434, AI67944, AI632818, AI75761, AA694111, AI128450, AI017450, AI183618, AI695163, M71175, AI359210, AI352223, AI076169, AI373833, BE645009, AI183618, AI679434, AI67944, AI632419, AN611909, H98169, AA316805, AA232496, AI3517595, AA64068, AA516603, AA21805, AA316805, AA526159, BE615345, BE615934, N24474, AA781062, BF337251, AA566011, AI004436, AI249345, AA027991, AA366773, AA366805, AA566011, AI004436, AI249345, AA366771, AA3165251, AA316805, AA586199, AA586199, AA586199, AA586199, AA586199, AA586199, AA586199, AA586199, AA586501, BE841187, BF374341, AW969030, BF001680, BF702390, H61031, AW866581, AW866501, AI14703, AI280637, AI648454, BF970652, AI433523, AI633542, BF812938, AI14703, AI280637, AI648454, BF970652, AI435233, AI633242, BF812938, AI14703, AI280637, AI648454, BF970652, AI433525, AI633540, AV163594, AI14703, AI280637, AI648454, BF970652, AI435253, AI633540, AV712953, AI862139, AW168650, AW026882, AI891775, BE964614, BF724198, AI431975, BF814453, AW251034, AW051258, AI862139, AU16215191, BF816042, AI819775, BE964614, BF724198, AI431975, BF814453, AI862139, AW168650, AW026882, AI8918980, AL515191, BF816042, AI819775, BE964614, BF724198, AI431975, BF814453, AI862139, AW168650, AI862242, AI818980, AL515191, BF816042, AI819775, BF8161634, AI819775, BF8161611, BF161612, AI8119775, BF8161611, BF161612, AI8119775, BF8161611, BF161612, AI811 |
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| 15 - 605 | 15 - 623 | 15 - 1212 |
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| AIG70009, BE965621, AW086113, AIG70002, BG109131, AL513961, AIZ54731, AI564719, BF814412, AI815232, AI677796, BE965121, A1619502, A1445432, AL514579, AI687728, AL513597, AW166903, AW235482, AI435641, AI637584, AA292158, AIZ86256, BF925729, AW081036, AV735235, AI648509, AL514047, AI690426, AL514357, AL045500, AI687362, AI677162, AI926790, AI440239, AI590830, AI890833, AI812107, AL039086, AW148408, AI612913, AL513577, AI620003, AI799183, AI559296, AV703585, AI582391, AI687127, BF921291, AW079075, AL134830, AI580984, BF856017, AL514701, BG180046, BE963244, AI673688, BE868047, AIC707408, AIC7074408, AIC7074408 | AL110225, AF113019, AL110280, 148978, AF131012, AL162083, 109499, A08916, A08913, AB104255, AF113019, AL110280, 148978, AF116631, AL162083, 109499, A08916, A08913, AB047904, AL133557, S78214, AK027096, AL137557, AL110196, X82434, AB049880, AL117463, AL359596, AL137480, AK025092, A08910, AF285167, AF314091, A65341, E05822, AK026480, AL122050, AF177401, AK026504, AF119875, AL117457, AL359941, AK027173, AL050149, AF116682, 189931, A65340, AL049452, AL137550, AL353940, AR087170, AF116688, Z82022, AK026927, AF113694, AK025084, AF130105, AL442082, | AL133665, AK024594, AB051158, AK026744, AL389935, AK026532, AF119899, A77033, A77035, AL050208, AL050146, AL133619, AL389982, AL162004, S54890, AF119909, AL117460, AL359601, AL050116, AF125948, 148979, Y11254, AL133080, AK025339, AK026855, AL137459, AK000323, A23630, A08909, AL133640, AF118090, AB048954, AK027160, AF090903, AF130077, AK026542, Y16645, AB048953, AK026045, AF111851, AL133016, AF090901, AJ005690, AL133560, AF116691, AF113677, S36676, I33392, | AK026959, Z13966, AL049382, AK024538, AF183393, AL110221, AF090900, AF230496, AJ000937, AB041801, AK026583, AK026784, AF116646, AL122100, AL133075, AF158248, S68736, AL133113, AF106862, AK026534, AB049892, A86558, AF225424, AF130099, X57961, AL050393, AL359618, X72889, AK026592, AL080124, AF078844, AF091084, AB052191, U37359, AF146568, AF090896, AL050138, AL133606, AF090934, AF113699, AL049314, AK000083, X63574, AL080163, AL122121, AR038854, U75932, AF090923, E02349, AL110296, AK026741, AK027204, AF116602, AF130087, AB052200, AF130082, | 861953, AF130104, AL050277, AL137283, AF097996, X70685, AK0000618, AK000212, AR079032, AL050108, AK026647, AL035458, AL133637, E03348, AF113689, AF130055, AF119878, AL049466, AK026613, AK027164, AF242189, U57352, AL157482, AK000647, AL122093, I68732, AL122110, AF119894, AF017437, AK026894, AK026528, AL050024, I33391, AF218014, AK025407, X84990, AX019230, AL133565, AX026823, A58524, A58523, AK026865, AK07081, AL149938, AF119865, AK000137, AF107847, AL137271, AF130100. | AL353957, AK000074, AB050431, E07108, AF039138, AF039137, AK000391, AL353956, AF113013, Y11587, AL080074, AK024747, AL117583, AF176651, AK025414, E01963, AL162006, AK025491, AF119857, AK026452, AK025113, AK025772, AF138861, AX006092, AF111847, AF106657, AF079765, AX019229, AF104032, AL049464, AF100931, AF118094, |
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| AF118070, X80340, U58996, AK024974, AF026124, AL157431, AL117443, AL117435, U35846, and U42766. | AU138309, BE378723, AW954529, BG170125, BE407482, BF345314, BG110266, AU126439, BG252087, AI207589, BE538230, AW370996, AW514900, AW614778, BE873057, AW370434, BF968320, BG257066, AA166771, BG112058, AL525443, BF346757, BG118689, BE545196, AI808550, AU128363, A1076009, AW748427, A1026641, BG163741, H51991, AA430610, AI825617, AW796311, AW182707, AW748427, A1026641, BG163741, H51991, AA322231, Z45337, A1080168, A7166072, BF727366, AV696797, R76072, AA384673, W24461, BF445015, A1806968, R54168, AA296520, BE171602, BF894766, BE171603, R82603, AA294943, AV692283, AA310605, AA602404, NA2674, R14396, BF736113, BE892010, A1865128, AA824553, N32458, AA3562404, NA2674, R14396, BF736113, BE892010, A1865128, AA824553, N32458, AA44136, A1075198, W05098, AA385099, AW374839, BF516243, AI248101, AI805883, AA582768, AA809507, AA731343, W44721, AA862207, R56252, AA826145, AA573521, AW407346, BG028788, N92283, BF445409, W38624, AI150941, A1655627, AA889359, BF439835, AW613357, A1304379, AL133843, AI143202, AI767348, BE671632, AA655559, AA400410, AI826612, A1655556, A1433399, A1361012, AA730248, BF196078, AW511016, A1693099, A16933099, AV48435, T93242, AA436236, AA526868, BF034090, R82604, AA826163, AA656978, AW511016, A1693099, A1693113, AW156075, A848435, T93242, AA436236, AA526868, BF034090, R82604, AA826163, AA656978, BF591968, N48257, BE58968, L93135, AW061137, AX0101197, AB100693, Z82196, and A1916220. | BE791453, BE266718, AI831454, AI478449, BF204533, BE728534, AW872373, AI366669, AI280407, AA306735, BG149615, N93873, AI268479, BE669813, AA465678, BE550202, AA912151, AA394238, AA972278, AW138759, AA310901, AW004693, AW008896, H96033, AA576640, AA292385, BF307199, BF511769, and AI074225. | AA863120, BF732255, BE326946, AW298244, AA017053, AA435512, AW295622, AW295626, AI951643, T53592, BE939132, AW294754, AA393547, T53591, AV699140, AA969193, R05527, AI085442, AA372985, R22075, AL160237, AC022137, AC011452, AC010636, AC002097, AF072711, AC006452, AL022326, AC008469, AC005520, U82670, AF176315, AL136969, AL365217, AC008770, AC005057, AC073316, AL133258, Z97054, Z69387, and AP000344. | BF967495, BF211711, AW327285, BF526862, BG025286, BF979085, BG027660, BE251902, |
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| | 15 - 1608 | 15 - 591 | 15 - 1443 | 15 - 544 |
| | 1 - 1594 | 1 - 577 | 1 - 1429 | 1 - 530 |
| | 988441 | 988499 | 988526 | 988536 |
| | 41 | 215 | 216 | 217 |
| | HSLCX45 | HLMJB09 | HOVEF60 | HOGDR72 |

| AV762304, BE260454, BF129885, AV741191, BF681456, BE900272, Al884918, Al095756, AS1010, BE254907, AU126691, AV714954, Al827050, AV743251, AV710585, AV732886, AI34424, AA584218, AA744890, AI300848, W16526, AI748804, AI857538, AI264687, W47377, BF792830, AA0400848, W16526, AI748804, AI857538, AI264687, AI34424, AF592830, AA0400813, AA609680, AA855009, AV745024, BF686112, AJ033767, AA420847, BF695251, AV724057, AI312889, AI392941, AA707599, AI572564, AI298244, D61196, AA707532, AI338594, D20757, F24231, BF447322, AA650234, AA758576, N29939, AA468938, W05637, AV751983, AA313977, AA683534, AA469013, BE868256, F19198, AV737070, D51524, AA420429, AA657493, AI749529, AA335917, AW008966, H10544, AI131360, AI037998, BF240779, AI751883, AA513970, AI051789, AI159957, W47378, AA523187, AW02656, AI16866, AI720892, F18683, E2887794, AI8746867, AW007089, BE672619, D81191, AA968838, BF337165, D51520, AA889941, BF954574, BF209878, AA632059, AA576811, AI300706, T79725, AV739817, T68141, BE812441, R73094, AA339720, F19462, BE073352, AA724959, AA961393, AI336135, AI138721, F27913, T30099, T71446, BG254284, F34123, AA568145, T369424, D56154, BF920431, AV939886, AA083105, D81173, AA313992, W04355, BF52508, AW327625, D81378, D52497, AA040193, AA040193, AA58217, AA040193, AA58217, AA040193, AA58217, AA040194, BE073261, W05779, R29137, H89590, D53867, BF79254, H24140, AA632273, AI161393, F22684, AV741683, AA996319, T36223, F29277, AV719994, AA57217, AA040194, BE073240, W38814, AA382237, AA113993, AL138958, AL04436, AB6915, AL044366, AL091983, BE905959, BF431001, AA633270, BF572727, AA80915, AL09493, and AC005570. | BE514634, BG256857, BE870314, BE537227, BG107758, AU157540, BE379227, BG180584, AA039903, AW957081, BF666246, AA041527, BF223913, AI088688, AI452952, BE463637, AI768938, AI354883, AI569996, AI168582, BE746240, AI189869, BF930629, AU138248, BG167829, AA214649, BF897138, AW613854, AI086670, R70656, AW262560, AA906264, BG176733, AA862839, BF992831, BE613477, BE614226, BF772857, BE741553, AA369318, AA398795, AA334622, AW749053, BF979310, BE541549, AI990089, R01145, AA367593, AI990659, AA379173, AL449915, AI886597, AI024032, AA435840, AA670197, AA847919, BF195634, AA248230, BE707671, N81095, BF196800, AI476295, AW818630, BE677063, AW582587, BF877092, R05760, AW858854, BE964371, BF773525, BE937222, AA079305, BF799977, BF982105, BF988362, BE97423, Y10043, AF003626, AX012194, AX011713, |
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| | 15 - 1310 |
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|---------|-----|--------|----------|-----------|---|----------|
| НАМНН26 | 219 | 988737 | 1-915 | 15 - 929 | AU128934, AW295223, BE464400, AA991499, BE896488, AA350115, AA862497, AW803075, BF307480, BE771630, AI565361, BF305159, BG035692, AU143667, BE888160, BF308892, BG167064, BF316003, BG105910, AL533676, AA689522, AL527443, BF310865, BE561846, BE902727, BE250595, BE562560, AI970905, AB014077, AC004209, AP000513, U63336, and Z63167. | <u> </u> |
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| HNOAX46 | 222 | 989183 | 1 - 2741 | 15 - 2755 | AÜ119537, AÜ134978, AI064858, AI064875, AW007726, AV703643, AU127757, AI694749, AI819136, AI887756, AI869305, BE885171, AA600798, AI887625, AI628095, BF061377, BE348369, AA723035, BF525409, AU148211, AI203615, AU145850, BE178344, AW169246, AI5233583, AI922660, AI589554, BE720104, AV722120, AI805580, AU148112, BG250310, | |

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| | | | | | BE300022, BE313242, AU142632, AU11/922, BF32/823, BE301443, AU142323, AU122446, BE363148, AW301066, BE36641, BE308136, BE860713, BE877834, BE367448, AV \$37719 |
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| AW604149, BF839031, AU154938, AU153971, AA836773, AI493577, AU153566, AW993157, BG250078, BF744791, AU151304, AA761758, AW995371, BF744844, AU152202, AW847704, AU153888, BF092653, AI675857, AI184771, AA179457, AW003152, AU847896, W92140, AW847702, AW501244, AU144708, BE502430, BE541205, N47220, AA8438957, AA057121, AW967460, AU156419, BF734912, AW367051, BE813981, AA4135935, AU149971, BF593592, BF735818, AW367659, BG167391, AA825894, AA4135957, AA057121, AW967460, AU156419, BF735667, BF779777, BF331974, AA127605, BE539649, BE740668, AA490747, AW137950, BF735667, BF779777, BF8131974, AA127605, BE539649, BF768593, BE539217, AA070501, AW020724, AW499499, AA687281, AV706637, BF115225, AW847823, AW847822, BF735590, AI687479, AA507071, AW847872, AW847691, R22838, BF134963, AI825181, BF088244, BE888984, AW31643, BF7082091, AW500130, AI638673, T68025, AW605375, AW385429, BF687348, AA136233, AW8019219, AB565767, BE5339407, AW233482, AA411844, BE772678, AW370447, AA092197, AI907416, AI907420, BE081567, AW751564, N45569, BG178091, BF907447, AA092197, AI907416, AI907420, BE081567, AW751564, N45569, BG178091, BF907447, AA657860, AI803505, AI907362, BF918061, AI569199, BF593197, AA507072, BE005238, AA504889, BE142834, AA082596, AB020636, AF157326, E12829, D87671, AK001791, AK000976, AL133560, Z60091, and Z600900. | AI114709, and BF515175. | BE736233, BE393462, BF979620, BG180451, BG031119, BE895899, AW015154, AI367256, BG250616, AW246035, BF589766, AA723883, AI339548, AI148428, AW518892, AI874244, AI339560, AW003788, AI653700, AA77268, AI261244, BE906120, AA847296, AW007179, BE293221, AW173770, AI346957, AI475948, AI143349, T65504, AI814098, R52652, AI339729, H39618, BE545311, F13535, BF980260, AV652617, and AL122073. | AA034059, BG169883, and AW998693. | AV722559, BE041424, AI374803, AV662297, W92499, AA431153, AW977181, BF439568, AA678183, AW834968, AW834907, AW837310, AA885002, BG028110, AA732329, AA732727, BF242398, AA432173, AW176741, AW580372, N55761, BF982207, AW241399, BF224093, AW970314, BF507800, AW970227, AA628895, AA766833, AA534395, N32238, AA347608, AW189247, R49979, N31980, AI650721, AI6885214, AW511372, BG257682, BE549817, BG252929, BG167830, BG029667, BG113493, BF795712, AL039390, BF796402, BG261260, BG113712, BG163646, AL046681, BG178532, BG180295, BF968804, BG167093, BG114865, BF345716, BG111831, BF971261, BF965904, BG179586, BG111590, BG036465, BF968622, BG251851, BG165260, BG176936, BG104735, BG108452, BG035330, BF794212, |
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| | 15 - 506 | 15 - 2164 | 15 - 248 | 15 - 469 |
| | 1 - 492 | 1 - 2150 | 1 - 234 | 1 - 455 |
| , | 990611 | 990751 | 692066 | 990913 |
| | 237 | 238 | 239 | 240 |
| | HODGN92 | HPDRP30 | HBXFN09 | HDTB075 |

| BG164752, BG033403, BF347093, BG029194, BG176609, BF797998, BF983875, BG249858, BG036550, BG251257, AL046137, BF527274, BG111916, BF792586, BG030750, BG252019, BG181100, BG169376, BG024457, BG116490, BG180788, BG029128, BG261116, BG111100, BG181100, BG12277, BG171463, BF797137, BG119543, BF970425, BG180200, BG251476, BG1788146, BF968453, AI249936, BG251076, AL042551, BG259829, BG115045, BG167751, BF797072, BG178879, BG165043, BE783067, BG257535, AA298135, BG120398, BG030516, BF797072, BG178879, BG180045, BG180046, BF526526, BG110517, BG252778, BG120046, BG035653, BG110518, BF969185, BG18672, AW872786, BG169249, BG169238, BG106515, BG027368, BF339484, BG114853, BE897632, AW872786, BG171620, BE883591, AL045166, BE464688, AA938721, BG105318, BG16926, BE618455, BG171701, BF981492, BG177541, BE622452, BG18889, AF065391, AK023252, AF013965, AF013965, AF065392, AL133074, AX040958, AX041002, AX040974, AL133655, U30290, and E13998. | BE904382, BF971269, BG03588, BG170653, AA527442, BF032717, BG255093, BF684481, BE304332, BF312957, BE740090, AI651618, AI700966, BE616023, BF439777, BE218172, BG259712, BF23565, AW328638, AW081016, BE312971, BE218745, BE880967, AW965885, AV688930, BF110536, BF223349, BE616836, AI659341, AI492019, BF037137, BG011544, AA815644, AA132754, AI693633, AI362810, AI830364, AA602677, AI799940, AI590301, AA155644, AA132754, AI693639, AI538876, AA935812, A1913180, BE262105, BE2202003, AW872403, BF431624, AI478310, BE302628, AI963163, AI69932, AI867018, AI445763, AW328637, AW72403, BF431624, AI88151, BE3093564, BE501936, BE677346, AI624773, AW004960, AW628274, BE676445, AW108151, W67379, AA778130, AW1149932, AI640977, AI68763, AI68769, AI7083791, AI673720, AA777083, AI291635, AI70833, AI867019, AI390564, AA121213, H30620, AA101514, W67379, AA778130, AW114190, AI241095, AI990564, AA121213, AI824615, R39429, AI291349, AW193446, AA111190, AI241095, AW193788, AW589519, AA132803, AI687589, AA358948, H28151, W31255, AA912622, AW591011, AI538118, AW075509, AW614272, BE349060, AA456143, AA780923, H46616, BF529857, W67264, AW235829, AI686256, AA308514, AI871489, BE833082, AW663952, AI86269, BF886265, AI478217, AW338623, T24735, BP981529, BE242914, BF970481, BE272808, AW955256, AV700660, AV660728, AV691080, AV661704, AV655280, AV665209, AV706417, AV686064, AV660728, AV651008, AV661704, AV655206, AV77753, AV708254, AV707773, AV708205, AV707753, AV708201, AV708843, AV708866, AV728813, AV705201, AV708866, AV702818, AV655096, AV7702818, AV655096, AV7702818, AV655096, AV7702818, AV655096, AV7702818, AV655096, AV702818, AV702201, AV705195, AV654908, AV705103, AV705103, AV705103, AV705103, AV705103, AV705103, AV705103, AV705103, AV705201, AV705103, AV705201, AV72031, AV705201, AV72031, AV705103, AV705201, AV705103, AV7052001, AV705103, AV705201, AV705103, AV705201, AV705103, AV705201, AV705103, AV70520 |
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| HODCU15 | 242 | 991048 | 1 - 3173 | 15 - 3187 | BE782829, BE166336, BE893914, BF963846, AI637581, AI635627, BF956699, AW615337, BE892490, AW081066, AA398002, BF246643, BF959925, BF943255, BF352768, AV714386, AA399078, and AC046129. |
| HOGDIS1 | 243 | 991268 | 1 - 962 | 15 - 976 | BE745148, BF314775, BF313468, AW972065, AW160403, AA190647, AI468027, AA732363, AI568476, AI815528, AW015158, BE315222, AW958765, AA725374, BF446080, AA668784, BF313148, AA058590, BE741366, BE261839, AA021327, H92735, AA627547, H96373, H85956, BE843878, BF058863, AA973647, AA018467, AI240617, AA383496, AW439263, AI925892, AW162022, BE694410, AI739208, BE694382, AI336026, AL044942, and AF007872. |
| HLWAF02 | 244 | 991516 | 1 - 569 | 15 - 583 | AA421538, AL525449, AU153711, AW964455, AW964457, AU148695, AU149818, AU147714, W72446, AI004165, AU159170, AU151493, W31068, AW874565, AA295338, AW269624, AA577265, BF764205, AW732171, AV702593, AI863050, AW003851, AI190446, BF84336, AA417216, AA483528, W74385, AW748748, AA318970, BE795181, AA872030, W76345, H26877, AW384040, AW517019, AW884747, AI469697, AI370275, BF892944, AI017646, AV690726, AL036104, H99624, AV689538, AV688770, AV691815, Al421770, BF591512, R94006, BE782006, AV68959, BE169392, AV689985, AV689953, AF004539, Z41369, F09802, AK023231, AK001371, AK026645, AB040885, and AK023160. |
| HRKPA16 | 245 | 991654 | 1-625 | 15 - 639 | BG259737, AW194396, AA143418, AA404619, AI608754, AU154417, AI374988, N63618, AU149063, AU152646, AW966669, AU152215, AI038547, AA443610, AI690852, AA427421, AW339887, W60354, W59988, AW118447, AA349493, AI445343, AA461548, AW993204, AL121201, AA946641, H59011, AI014721, R98999, AW103224, AU157188, AW993204, AA927255, AA843235, BE467545, T64658, AA887129, AA354545, AI811399, AW072161, H21841, AA805567, H88125, H49591, AI279415, BF912456, AI621314, AW593607, AU148527, AU157952, AA665881, AW468541, BF914416, AI754257, AA493464, AI572680, AA610644, AW051097, BF747303, BE328286, AA177130, AV651424, AA493245, |

| AA633804, BF947959, AA100107, AA676462, BF084979, AA846944, BF679568, AA579417, AW875184 BG050139 BF673382, AA730530 AW67358 AV683406 AI308539 H37068 |
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| AA425283, AW847028, AA338474, AA834891, AW975434, AW501278, AI567676, |
| AW793601, T57562, BF541501, BE974200, AA493808, AA657808, AI344906, AI318548, |
| BF736912, AIS70067, AA179364, BE244722, BE063646, AA663579, AI376687, AA492496, BG152612, AW96362, BF158554, AA584360, A1702049, AV717475, AA847341, F04635 |
| AA604601, AA482682, AA578711, AV753446, AW238242, AI831312, BG059924, |
| AA935827, AV652066, AI445699, AI312267, AI242236, AI174703, AW963552, N49298, |
| AW576221, AA772493, AW963295, BF823660, AI354377, AA639040, BE139230, AA129000, |
| A1251460, AV740548, AA524604, AA610784, A1459794, AA313025, AW192002, AA320106, B07703 A1744100 A1460110 A 887835 A 860110 B07703 A1744100 A1460110 A 887835 A 860110 B07844 |
| AI538404, AV712092, AA669225, AV763460, AI499538, AI631299, AA632355, AU146789, |
| BG180320, AI547110, AW275585, AL121039, F01616, C15966, AW339694, D38524, Z96810, |
| L47222, AC004019, AC007666, AC000052, AL132659, AC006166, Z96182, AC005730, |
| AB023051, AC004650, AC010463, AL035460, AP000512, L47229, AC003090, U66062, |
| AC003999, AJ271735, AB020873, AC002351, AC009516, AC006511, AC006315, AC005393, |
| AP001712, AC002996, AC004975, AC007746, AC005399, AC005005, AC004213, AJ251973, |
| AC005325, AC016683, AL138756, U91326, L47227, Z73979, AC004031, AC003014, |
| AB035195, AC005666, AL049646, AF205588, D34619, AF207550, AC011296, AP000691, |
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| AC011462, AL121301, L41223, AC001212, AC00521, AL137200, AC0003500, AL137100, AC011444 AK000385 AC004053 76936 AI 03147 AD00069 AI 163301 AI 138836 |
| AC018751, AC004825, AL109798, AC008812, AL353807, AL079341, AC005911, AL122015, |
| AC004686, L81692, AJ246003, AC007632, AC008738, AL139182, AL133163, U15422, |
| AB046832, AL035690, AC002544, AC003665, AL132866, AC002357, AC002465, AC011811, |
| AL136441, AP000280, AC004821, AL356747, AP001725, AC011480, AC010605, AP000694, |
| L47224, AL096814, AL117374, Z81450, AC005071, AC004652, AP000107, AP000039, |
| Z69375, AC005899, AC005202, AP001741, AL133342, AB032485, AL035587, Z95116, |
| AL363503, AC005836, AC0036034, AC003804, AL139343, AL022336, AC011462, AL030349, |
| ACOUSES, ANYZ4514, ALIZIOOU, ALIZE ACOUZ4062, ALUSISIII, AF 1907/3, ALUSIZOU, ALIZE AT 1007/8 AI 138833 |
| AC007510, AB039887, AC010524, AP000361, AC005228, AL008634, AC004893, AC005253, |
| AL360157, AC006468, AC006942, AC006162, AL031666, AC005529, AL033529, Z97985, |
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| | | | | | BEUGYUZH, BCIU4/42, AW6ZUIZG, ALIJ/324, AW64/ZUZ, BIUGUJ/7, AW0117UJ, |

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AW854552, AI086283, BF918604, BE047760, AW887035, AW937815, AA808968, BE780820, AW834551, BE245825, AA018943, AW861625, AW811646, H82488, AW105462, AV722355, BF881870, AW834553, AC006399, AL034412, AC004029, AC005137, AL080239, AL022401, AL 532687, AW847178, W03511, AA579202, AW862582, BE549207, AW895657, AW962193 AC012000, AC005873, AC023510, AC009508, AL356473, AC018513, AL390237, AC008770, 4L118852, AU149172, AA128858, AI114529, AU122382, AW983740, AI920994, AW852539 AW938300, AW811963, BE065599, BF839073, BE065597, BF980482, BF344952, BE728951, AC006484, AC020755, AL135926, AC010719, AL022578, AC026197, AC003091, AC004994, AC008583, AC007731, AL136372, AL079303, AL133241, AC005500, AL021069, AC009404, AL137016, AC009514, AL121882, AC010685, AC006478, AC011890, AL122003, AL354685, AL355836, AC026341, AC007444, AC009229, AP001708, AC005019, AL158157, AL034410, AL049794, AC005024, AC024067, AC000110, AL445249, AC020603, AL121880, AC073165, AC004043, AL356799, AL133226, AL136297, AL161905, AF003530, AC000049, AC013447, AL132668, AL117340, AL049176, AL391294, AC020637, AL135922, AC010235, AC005018, AP002026, AC006054, AC008509, AL009176, AL049823, AL360174, AL157375, AP001331, AC005068, AP001960, AC018468, AC004103, AL133370, AL449163, AP002027, AL139009, AL163278, AJ229041, AP001724, AC006222, AL049844, AC007282, AL163284, AL121867, AL121757, AP001709, AC007313, AC004911, AC003081, AL049778, AL133247, AL109759, AP002532, AL049838, AP001760, AL049565, AL035246, AL121986, AB014085, AC006313, AL049875, AL035423, AL117191, AL009028, AL034370, AC004187, AL445306, AL050308, AL163280, AF055066, AL022399, AL031074, AL354977, AL157837, AP000515, AC007514, AC007751, AC006287, AC004973, AL034406, AL121958, AL137061, AC009430, AF235098, AV682071, BE408894, AW855467, BE781027, T07197, AA129985, BF876571, AW902213, AL356913, AF036876, AF003625, AL133417, AL137157, AC009241, Z95126, AC002067, AC008833, AC006327, AL137015, AC005303, AL161804, AL157779, L78810, AC005539, X87344, AC005999, AP000127, AP000205, AC002367, AC005491, AL096827, AF241733, Z82210, AC008177, AL035427, AC007528, AL022400, AC022274, AL118496, AP000493, Z98255, AL360157, AL359715, AC002523, AC002468, AL139093, AC002426, AC078854 AC016831, AL445189, AC009949, AL132827, AC002071, AC024153, Z97198, AL049792 Z98753, AL157413, AC007364, AL354750, AC003106, AC087085, AL031965, AC009505 AL135786, AL022100, Z83745, AL109934, AF110324, AB045358, AL356513, AC004852 AC025614, AL031054, AL135960, AJ131016, Z70050, AC007878, AC010436, AL022727 Z95325, AC005588, Z83850, AL355530, AC010198, AL391689, AC005352, AC005823, Z99572, AC008912, AP001669, AC004478, AF274857, Z99289, AC004388, AL354653, AC006249, U96409, AC004128, Z83848, AL360270, AL117347, AC011362, AL096829 AW811877, AW811885, AL119839, AA736433, AL079961, AV730967, AL044792, AW811815, AV711736, AU121228, BF082163, AW893700, BE065237, BE155635,

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| HODCT60 | 255 | 908866 | 1-673 | 15 - 687 | BG150704. |
| HAQBV81 | 256 | 816866 | 1-813 | 15 - 827 | T68150, AA664288, AA113062, AL045561, H63748, BE350958, BF821840, AA190633, BG120327, BF994701, AW582857, and AW582794. |
| HDTGF49 | 257 | 993931 | 1 - 1643 | 15 - 1657 | BF516217, AV732160, R83419, BG255616, BE171964, F27801, BG253577, AW474317, BE162826, AV755592, and AK002081. |
| HOGBN62 | 258 | 994134 | 1 - 642 | 15 - 656 | W68274, AI073484, BE543503, AL524870, AL528375, AL524871, AL529901, AL528409, |
| | | | | | AA528652, T58395, T58350, AI242994, AL048969, AA713712, BE154526, BE154518, |
| | | | | | BG111530, AA569631, AA484658, AW275432, AI269832, H90845, AW263396, AI523991, |
| | | | | | F13773, W03981, AA129133, BE154459, AA526426, AW855982, BE158756, BE158799, |
| | | | | • | AA988320, AI768952, AA348511, AA569586, AW885762, AA224238, AA489571, BF876739, |
| | | | | | BF877700, AA283455, BF877694, AA934825, AW974136, BF978936, BG058309, AA210951, |
| | | | | | AW833189, BF977345, BE154446, AA069473, AW238386, AI611736, BE154584, BE154524, |
| | | | | | AA3680/3, AA399/10, AA368633, A13699//, AA/08889, AL134280, AA37/64, AA372884, |
| | | - | | | BE179742, AW438765, BF992129, BE739174, AA664942, BF810146, F00818, AW817905, |
| . — | | | | | BF244176, AA714276, BG006133, AI819525, AA720531, AA908331, AI378950, AA601237, |
| | | | | | AA910680, AW387775, BE179910, AW387778, AW572140, BF978162, AI500563, |
| | | | | | AA411171, BF691653, AW769859, AI354388, BF833448, AA635135, AW510403, |
| | | | | | AW473996, BE961047, AW409710, AV739833, AI690379, AV695910, AW410354, |
| | | | | | BF212465, BE87/0750, BF57/1687, BF97/8010, BF691593, F01694, BE77/501, BF97/222, |
| | <u>.</u> | | | | BF978508, BF691774, BF211406, BF238352, BF979045, BF690603, BE961172, BF692655, |
| | | | | | BF572980, BF184128, BF571004, BF184981, BF692099, BE777568, BF692045, AA581352, |
| | | | | | AW820694, BG110818, AA993041, AA584133, AA594072, AA599115, AA599143, T50205, |
| | | | | | F00112, T84169, BE888068, AA828062, BE147527, AA669985, AA297199, BF762987, |
| | | | · | | AW087537, BF213033, W02403, AI870453, AI919048, H70469, AA719201, AI831171, |
| | | | - | | AA381216, AA101744, AA744084, BF676352, AA512999, T87481, F29968, BE002881, |
| | | | | | AJ230815, BF803608, BE154517, AA745459, BF921846, AA744068, AA745533, R51854, |
| | | | | | AV694805, AW272389, AA745393, AA477103, AA639040, BF957365, BF915592, NS8546, |
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| | | | | | T50255, BE886807, BE302658, AW439867, AA584814, BF917819, AI984742, BF879039, |
| | | | | | AA568127, H60396, AI635245, AL039669, AA525753, AA569474, AW387786, AC022392, |
| | | | | | AL359339, AK023436, AX048077, AF132952, AC005154, AC002449, AC011290, AL031985, |
| | | | | | AL008628, Z70289, AL161938, AC012099, AC006028, AC006578, AC005520, AF196969, |
| | | • | | | AC007487, AL031575, AL109843, AL030996, AC004914, AC005697, AC010582, AL159985, |
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| | | | | | AF008243, AF001417, AF000160, AF000018, AC003899, AF001655, AL033343, AC009312, |

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| | | | | | AC004031, U78027, U80460, AL035422, AL353804, AL133448, AC004084, AC006345, AL050318, AL121981. AL121753, AL359954, AL022333. AP000317. AP000119, AP000051. |
| | | | | | AP000166, AL355515, AL354872, AL008720, AL022401, AP001719, AL354680, AL162742, |
| | | | | | AL109743, AP000337, AL023694, AC020916, M89651, Z84486, AL031774, AC007560, |
| | | | | | AL035689, AL034380, AL121749, AL158198, AC006040, AC005701, AE000661, AC007421, AC008115, AT 049851, A 0005620, 782178, AT 031293, AT 121969, AC008897, 782214 |
| | | | | | AC005968, AC009247, AC083864, AL136131, AC005618, AL079352, AL365475, AC002365, |
| | | | | | AF064861, A58551, U00921, AL356414, Y14768, AL136228, AC004596, AP000505, |
| | | | | | AC002090, AF129756, AL445590, AP001055, AL441887, AP000252, AL008725, AP000030, |
| | | | | | AP000212, AP000134, AC021752, AC006509, AL118510, AL033521, AC007993, AL133229, |
| | | | _ | | ACU09194, ACU08/33, AFU01/11, ALU33052, AFU00348, ACU08399, ACU10303, ACU04593, AC024561 799716 AC002091 AL035682 AC006000 AC022428 AC007129 AC004091 |
| | | | | | AC003007, AC000025, AC004033, AC005913, AC005527, AL008627, AC008753, AL049712, |
| | | | | | AL031847, AL359846, AC007731, AC005500, AC005632, AL355497, AC005529, AL137475, |
| | | | | | Z98882, AC011523, AP000279, AC005156, AC004775, AC010605, AP000289, AP000038, |
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| | | | | | AC000115, AC004693, Z82246, AC010129, AC004211, AP000496, AL031729, AL135786, |
| | | | | | AC018712, U85195, AC002369, AL050325, U75285, AL035046, AL049822, AL357560, |
| | | | | | AC006505, Z49237, AC011521, Z82248, AD000091, AC005523, U81031, AC000028, |
| | | | | | AP000228, AC004950, AC005841, AP000140, AC005228, AL096763, AC022143, AC002074, |
| | | | | | ACUUSIOL, ACUIU3U3, 29/032, ALL13331/, ACUU88623, 29/034, ACUIU02/, ACUU44036, |
| | | | | | AC010491, AC078833, AL021398, AL109925, AC003682, AC004112, AL035070, AC010620, |
| | | | | | ACU08/4/, AP000088, ACU05531, AL135924, AC009225, AP00055, ACU191/2, AC005084, AT11150, AC02481, AT046776, AC067480, |
| | | | | | AFIIII09, ACU23481, ALU49/76, ACU09086, ACU07430, ACU06449, AF001094, ALI30081, |
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| HSKGR42 | 259 | 994234 | 1 - 536 | 15 - 550 | BF665644, BE617899, AW975289, AW370221, BF700281, AU154495, BF334587, |
| | | | | | AW673900, AA648105, AA186588, AV758959, AI858160, BF088091, BF694157, AA659697, BE121677, A 4124228, A1014719, BC117662, MT16570, A 4120820, AM262211 |
| | | | | | DF1313/2, AA134333, AI914/19, DG11/333, N/1329, AU133/2/, AA1Z0620, AW303311, N23167 BE617460 BE166707 BE168417 BE870340 A11128878 AW006843 BC361312 |
| | | | | | AW576295, AW268074, AI343171, AI311237, AI335437, AI344929, AW274348, AI336661, |
| | | | | | BF239659, BF082539, BF438758, AI741448, BF108773, W73136, BE005344, BF829286, |
| | | | | | W73116, AI251367, AK000741, AK001701, AK001452, AK023438, and AF086334. |
| ноево85 | 260 | 994356 | 1 - 1053 | 15 - 1067 | BF980115, AI056683, AW071598, AA393981, BE350760, BF308825, AA053954, BE048405, AA397906, AI336420, AI022052, BE253405, AA007404, AI090549, AI147131, AI298335, |
| | | | | | N69649, AW627842, AA723269, AI671126, AL043975, W58502, AI051785, AI670024, |

| | | | | | AA639760, AL043976, BE410449, BE220726, BE728986, AW628468, AA707486, BE141443, AA034435, BE141442, AW386728, AL040334, BE304515, BE302700, BE304702, BE408918, BG165005, AA478114, AK024475, AL117435, and N71204. | [|
|-----------------|-----|--------|----------|-----------|--|---------------|
| HOPJG01 2 | 261 | 994536 | 1 - 1376 | 15 - 1390 | BE793580, BF966696, AL527978, AU142696, BG112976, BF038095, BF339980, BF346274, BF525737, BF343070, BE796871, A1660492, BE795029, BE740676, BF338457, BF342629, AU157046, AU147066, BF338457, BF342629, AU157046, AU147066, BF338457, BF342629, AU157046, AU147066, BF370477, BF342629, BF3426 | - |
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| | | | | | AA608630, BE799766, BF984658, BE793148, BG178895, AU142368, AU142683, BF313309, | |
| | | | | | BF453400, BC020841, BF080802, AW105101, AB22111, BE293411, BE199033, BE811928, BE201262, AW276503, BE382663, BG056162, BF205980, AI858505, BF311248, AW250342, | |
| | | | | - | BG035351, AU119034, AI573104, AU132674, AW247120, BG056369, BE207051, AI566557, | |
| | | | | | AA126454, BE293760, BF340125, BF343144, AU143052, BF341561, AA194148, BF206123, BE206913, BF317056, BE907374, BE2249879, AA582085, BE907893, BF310434, AI887640, | |
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| - | | | | | AI363424, AA434310, AA069319, AI359872, AA968682, AA526861, AU160054, BE312609, | |
| | | | | | AA621196, AW328427, AW384946, AA565664, AI460077, AI929377, AV709913, AA100233, | — |
| | | | | | AW163104, AI083875, AI344608, AA682988, AW072500, AI241695, AI366155, AA931506, | |
| | | | | | BF344959, AI340434, AI927283, BF568570, AW248160, BF344603, AA011195, AI459660, A A 680477 A 7347748 BE858780 A A 132540 BE06506 BE058070 A 7308768 BE753300 | |
| | | | | | AA635801, AW751546, AA995595, BE390802, AI089995, BF725281, AI282676, AW604964, | |
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| | | • | | | AW384914, BE671540, AA340245, AW848886, AI003397, D54696, AA156911, AI312413, | |
| | | | | | AA427771, A1167483, BF822526, A1334066, AA130945, A1758341, A1348853, A1701237, BCA58803, D55000, A W778066, WA7707, A W6A4001, BE617050, A 1860704, A 4 854500 | |
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| | | | | | W32696, AA856797, AA397722, AI858542, BF951374, AA811595, AI266757, BF945422, | |
| | | | | | W32697, AA975437, AA508200, AA156608, AA135907, AI051113, AA017372, AW604994, | |
| | | | | | AA641157, BF945444, BF945443, AA903069, H49325, A1345697, BE252817, A1056127, | |
| | | | | | AW374724, L47647, M16364, M16451, AR084972, M11306, M13453, M14400, M57664, | |
| | | | | | M/414/, M/4148, X15354; M18668, M/4149, KU2831, M11660, AF120106, M10012, X00954, AF774307, Y52880, AC008781, AC00775, M60806, Y06402, M71742, Y06400, M71742, Y06400, W71742, Y06400, W71742, Y06400, Y06400, W71742, W71742, W71742, W71742, W71742, W71742, W71742, W71742, | |
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| | | , | | AI911822, AI085351, BF795654, BF514270, AV748036, AA978045, AI078708, AI146955, AI348243, AA876046, AI085031, AA507454, BE270172, AI494230, AA962596, W44561, AI492600, AI278887, AI041437, AU155591, T99630, W80435, AA765850, W95095, BE893793, BF752229, AA157451, N24127, AI361128, AA910586, AA235549, AI537692, AI346618, H47725, AW589407, BF108854, AW300758, AA459292, AA001979, N59755, AA398727, AI129015, BF792285, AA954344, H75312, X54941, AC005913, AB025409, and AC008473. | |
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| HKGCN61 263 | 994664 | 1 - 1002 | 15 - 1016 | AL526805, AL532675, BF568818, BF975676, BE378603, BE275224, AI924198, AA643194, AI309624, BF568408, BE908971, BF568499, BE385963, BF971390, BE262270, AI954015, BE389035, BF317394, AI862773, BE384108, BF316998, AW954240, BC255355, BE387330, BF215641, A31090492, AV705042, AI571484, AI700492, AA772150, AL526773, AI9040492, AV705042, AI77184, AI700484, BF005869, BE265217, AW883307, BE267984, BF207808, BE885366, AW082898, AI554351, AA905048, BG058692, BE858566, BF41959, BG031824, AW873616, AA484776, AI204495, AU905681, AW328022, BE386932, AI887613, N52247, AW015277, AI024677, AW021398, N39299, BF216019, AA682891, AA446995, AI096768, AI039582, AI0143962, AA037075, AI092433, AW583724, AW070340, AA446995, AI0976768, AI0376786, BF560049, AA8349256, AA6090374, AA338127, AA503806, BF560049, AA6080974, AI38828, AA651870, AA143139, AA052597, AW572581, AW572581, AW720993, AI804639, AA001193, AW020020, AA015233, H82552, AI400288, AA917723, AA938524, AV750655, AI037929, BE088452, AI074157, AW572581, AI310161, F24749, BE183312, F19447, BE242972, AV766994, AW328055, H22433, AA65647, AA130161, F24749, BE183312, F19447, BE242972, AV7669944, AX328053, AV572594, AA296650, AW84694, AI3711793, R97020, AN151408, AI357678, AI393159, T91318, AI798212, AA70285, AI3714793, AA656688, BE677849, T84900, AI913408, AI65760, AU15468, AI0576054, AA809332, BG010512, AA934707, N45147, AI889311, AS88891, HA6291, H18341, BG029457, H38979, AW805564, BE938005, BF155976, N53131, AP58800, AI05569, AR885911, BE242874, BF088463, H56200, AU152689, AR889511, BE72276, AC008119, and AK899514, BF702510, AR899514, AR5889614, AK5889514, AK5889514, AK5889514, AK5889514, AK5889514, AK5000574, AX010510, AV909128, AK0005758, AV0009127, AC0008119, AC0008119, AC000973. | |
| HTXDY55 264 | 994699 | 1 - 276 | 15 - 290 | BE241618, BF967213, AU136610, BF980823, BG167993, BE904497, BG166879, AA316320, BG108260, BF032916, BE219939, AA429187, AA446365, BE327680, AA121059, AI681670, AW651689, BG028658, AL523554, AI929475, BF210951, AI984608, AW367123, AA262627, | |

| | | | | | BF966433, AF035606, AK001917, and U58773. |
|---------|------|--------|---------|-----------|--|
| HFOYI37 | 265 | 994776 | 1 - 739 | 15 - 753 | BG109766, BG105926, BF692516, BF664251, BF688436, BE875390, BG109747, BG035909, |
| | | | | | BF970556, AW250576, BE900583, BG026679, BE878884, BF794165, BF976452, BE736120, |
| | | | | | BG031147, BE729357, BE877578, BE795468, BF688232, BE746139, BF245353, BF338554, |
| | | | | | BF244479, BG036485, BF982066, BF313910, BF036466, BG109842, BF791758, BG034461, |
| | | | | | BG117069, BF792758, BG114839, BG033722, BE886095, BG171042, BE257620, BF307047, |
| | | | | | BE/35002, BE299813, BF34284/, AV/01221, BF00332/, BE900043, BG231333, BF7/2/139, AV743870 BF874785 BF083850 BG117404 BF703074 BF065863 BF64370 BG036333 |
| | | | | | AI751041, BE727591, BE889746, BG031486, AV734449, BE544132, BE254377, BG029536, |
| | | | | | BE270481, BF965283, AL535797, BG107168, BG258064, BE267387, BE872741, BE738044, |
| | | | | | AV752441, BE270455, BF797372, BF036710, BG113386, BF964816, BE786378, BE879576, |
| | | | | | BE904807, BG025904, AW014150, BF965061, BE728776, BE883341, BE260961, BF126057, |
| | | | | | BE907972, BF718407, BE905940, BE905659, BF239138, BF718612, BG122417, BG256185, |
| | | | | | BE728227, BE312855, BF240138, BF242457, AA642852, BE880883, BF718532, BE538681, |
| | | | | | AA307553, BE538643, BG029238, BF681352, AV743427, BE787767, AW327840, BF212711, |
| | | | | | BF214381, BE906403, BG120301, BF038389, BF032831, BF689246, AA308582, BE884573, |
| | | | | | BE568338, BG112395, BF718776, AA316955, BE737786, AA535287, BF102789, BE881558, |
| | | | | | AA316284, AA308670, BE874983, AA316553, BF718683, BF029119, D56272, BE737963, |
| | | | | | BGI13963, AV /39694, D31124, BE303428, BE/38399, AV /36913, AV /12360, BF/16022, BB784601 BB877009 BB866602 BC160737 B30810 BE308643 BE311374 BE316618 |
| | | | | | DE/040VI, DE0//VZ0, DE0030V3, DC109/L/, FZ001Y, DEZ90VVZ, DF211Z/4, DF31313310, T77K3K F74AK7 BF730KAK BF7387NK AWNKR908 BF7K1447 RF73R773 RGN34A37 |
| | | | | | F37402 BF571319 RF395762 BF310625 BF697600 BF313174 BF244308 BF303726 |
| | | | | | F25324, F20636, AW957333, BE563923, BF303651, AA146868, BG110622, AA315892, |
| | | | | | N77939, BF571305, BF718598, F33134, BF125885, BE960878, AV738228, AW408000, |
| | | | | | BF210245, BF029247, AW327881, BF700470, F20282, BF238356, BF245722, F30691, |
| | | - | | | AV710336, F30820, AV738364, BE906206, F27818, AA306499, BF215958, AL036559, |
| | | | | | AW404866, BE790264, BE277269, AA143290, AV724929, BF212390, AA157054, BF796856, |
| | | | | | BE277011, BE514876, BE389163, W03894, BF215956, AA385201, F24576, F28257, |
| | | | | | AA501970, AW022377, AV708457, AA533618, BF718795, F32109, BF055644, BF240053, |
| | | | | | F32578, BF238936, F30162, AA179118, AW021281, F31767, BF185361, BF791484, |
| | | | | | BE258863, AW020382, F26077, AI309282, BF669141, F31195, F26670, BE734016, AI525222, |
| | | | | | F31722, F22445, F27271, BE739184, H02747, AW518445, AW328274, F27843, AW024028, |
| | | | | | D14530, AC010598, AC005406, X77398, AB007158, AX046357, AR066494, AR060234, AR066079, AR0643113, and A A 441570 |
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| HOFNLIS | 007 | 9948/4 | 1 - 393 | I:3 - 40/ | BFY862344, AA304945, BE780293, AA353269, BE862516, BC104113, BCU30167, AW345352, AL522242, AL521727, BF345678, AL533751, BE018492, AA312114, BF210611, BE886709, A 446617, BE002007, W773340, BF668410, A 447467, N70024, A1660118, A1746484 |
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| AI372958, AW079905, N21556, AI093765, AW450650, AA099228, R56490, H15484, AW451773, BE466523, BF448069, AW236015, AW466866, BF591093, BF742982, AL080166, and AL031432. | AU130008, BE882058, AU143566, BG032538, BE731387, BG178926, BF246251, BE546764, AI130008, BE882058, BE900653, BE901813, BF131040, AW238927, BE278958, BE280397, AA146802, BG258310, BE280706, AA037291, BF130537, AW408060, BF671218, AA281910, BE958235, AW958055, BE958177, BE281535, AA304757, BF698291, BF082842, BF667061, AI378241, AA304345, BF155007, BE855677, BF196802, AA380691, AW963766, AA878646, AI702569, AW026139, AW372761, AA635825, BE855640, AW372751, BF733132, AI472824, AI016431, AA843477, AA887947, AI378170, AA744678, AI361091, AI081395, AW516559, AI003236, AA146803, AA767727, N34655, AI399815, AA380690, AW856740, AI080717, AA962414, AA661648, AI983339, BF476713, AW088309, AW304176, BE719113, AA961155, AW189866, and Y11651. | AL524032, AL520718, BF343440, BG114926, BG163566, AW749600, AI628088, BE903299, BF348876, BE902526, BF036229, AU121257, W47499, BF348874, BE070481, AW875044, AA326810, W04800, AW838268, BE671868, BF357960, BE547306, BF888235, BG114819, AW937280, AA434529, BE070427, AA004472, U92010, and AK022138. | AU11777, AU119363, BF981791, AI126717, AI052256, AU121212, BG165314, BE902257, BE536040, BG259893, AU142181, BF342007, BG164121, BG111390, BE898067, BG028752, AW189938, AU135622, BG118715, BF795161, BG169327, BG121236, BG028368, AW189938, AU135622, BG118715, BF795161, BG169327, BG121236, BG028368, AW070663, AI885180, BE880899, BE881172, AA745594, BF306702, BG107907, BF740223, Z99376, BE539928, BE892210, BF220065, AI014817, BG249687, BE880172, AW239211, AI784576, AW073683, AA524748, BF528854, BF655628, AW327439, BE779442, BF792343, AW276639, BG122906, AW872951, N36799, AI608763, BE783594, BG231999, AA627848, BE546358, AW247076, BE328479, AI127547, BE614484, BG177976, AW960374, BF343168, BE9463813, BE958181, AA166916, AW327258, AA568685, BE464835, Z99375, AA700740, AA740916, AU150439, BG033007, AA573156, AW621745, AW976548, AI185757, AA503846, AA761648, AA592898, BG114482, AA160273, AW029151, BE546491, AW507612, AI371140, AI371046, AI004126, AI138225, AA809470, W63552, AA828239, AW327612, AI371140, AI371046, AI004126, AI089539, BE539342, AU145724, AA127406, AI537332, AI190076, AA687268, BF381173, AA715174, BE206290, AI073676, AU128126, AA768416, AI635344, AI025865, AA992622, AW403551, AA393865, AA721424, AI023056, AA631733, AI167830, BE936495, AA100657, AI922493, AA888675, H83589, AU123056, AA031733, AI167830, BE936495, AA100657, AI522493, AI888675, H83589, AU123056, R54097, BE697208, AW819111, AI380802, BE043974, AI752947, AI761093, AI033288, |
| | 15 - 1177. | 15 - 1670 | 15 - 1893 |
| | 1 - 1163 | 1 - 1656 | 1 - 1879 |
| | 994954 | 994993 | 995200 |
| | 267 | 268 | 269 |
| | HOFNTS7 | HCBMT45 | HATDZ56 |

| HOCQI44 | 270 99 | 995229 | 1-715 | 15 - 729 | AA506081, BE697241, AA515785, AI491801, AI953284, AA649193, AA085335, AU156182, AA127405, AA076411, AA075012, W76601, AA305905, AA450223, AI039462, BF676192, AA127405, AA076411, AA075012, W76601, AA305905, AA452074, AA656437, AA009468, BE39594, AW8702927, AA079906, AA0277440, BF436509, A1064753, AW341032, BE798599, BE697250, W24030, AA076267, H00352, AA173626, A3138084, AA164763, W88554, AW1072927, AA076266, AW021312, W52167, BE67748, AA669387, BE9710775, BE183483, AA127505, BF03604, AA514558, AA164702, AA11337, AL127747, AA411811, AK45951, AA403080, AA6139385, F25558, BF798811, AA11337, AL13747, AA411811, AW662031, C00036, AA639385, F25558, BF798811, AA113438, AW933147, BF798816, AA115764, AI720134, R54151, M25936, X77886, AL031668, AC007405, A129707, AC010738, AL161670, AC007934, AF076927, T47873, T73141, T74664, R07722, R07723, AA115724, AI720134, R54151, M25936, W77835, AR664707, AA133408, AA8864670, AA876684, AA097779, AA016612, AA974663, AA17723, AA19723, |
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| W04406, BE940226, BF818730, AA705085, AA092755, BE963676, BF745587, BF756809, U73379, AL050348, AL121852, AC010326, and AR018789. | BF550931, BE887433, AA700637, BG031212, BE787285, BG032265, BG250289, BE872777, BF975368, BE888750, BG259501, BG178649, BF210809, BF796217, AL040945, BE20366, BE188506, BG18986, BG25169, BF310809, BF796217, AL040945, BE20360, BE18768, BE87768, BE77768, BE777230, BE37389, AW651664, BF203366, BE878500, BE018200, AA568104, BE263239, AW244142, BE390472, AW651664, BA730866, BF081407, AW732839, AA58104, BE67239, AW240322, H92844, AA309679, AW732846, AA355319, AW732839, AA165234, AA37707, AW408242, H92844, AA309679, AW732846, AA355319, AW732839, AA15739, BG030885, AB040387, H17153, AA337612, BE384475, BF811815, AA074621, BE38617, AA327809, AA453327, N89415, BF7893, AV737107, BF085282, BF388015, AL040946, AA149034, AA191678, AL264209, AA522725, AA599939, AW871345, AV737069, AW861944, AA588402, AV708243, AV708606, A1904760, AW890615, AW971745, BE208405, AA617827, BE837271, AA772717, A1281987, AW861984, AA518245, AA119396, AW604723, U46349, AL119352, F30775, BF888264, AW190557, F21301, BF360811, AI68800, AL119354, AA119457, BF888264, AW190557, F21301, BF360811, AI68800, AL119324, AA1119453, AA119433, AW11943, AW878455, AW861889, AW190557, F21301, BF360811, AI68300, AL119324, AL119463, AL119483, AW372827, AW861894, AL119463, AL119443, BF868687, AL119484, AL119439, AL119453, AL119443, BF868687, AL119484, AL119439, AL119402, AL119441, AL19434, AL119433, AL119444, AL119439, AL119445, AL119443, BF868684, BF868687, AL119484, AL119439, AL1494524, AL119443, BF868687, AL119444, AL119439, AL149450, AL043019, AL | AL523089, BE735213, BF690068, AI192441, BE793432, BE794150, AA630330, BE791668, AL523088, BE901445, BE793552, BE515306, BE276069, BF689238, BF027098, BE900126, BE562743, BE747331, BE791104, BF973064, BE733064, BE620825, AL529029, BF025872, BE311984, BE744764, AA641149, AI971403, AI049983, BE387021, BG033880, BE515093, BE796039, BG034885, BF796669, BF026756, BF685347, BG030617, BF688429, BF794151, |
| | 15 - 1030 | 15 - 993 |
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| | AA604386, BE409369, BF311123, BE274061, AI015012, BE277429, BF032190, BE293937, |
| | BE336637, BF026085, BE410671, BE797737, BE388605, BE407257, BF033167, BE543649, |
| | BF306304, BE256410, BE256962, BG167330, BE388962, AA918143, AI986290, BE390413, |
| | BE387464, BE264817, BE251052, AI683975, BE563000, BE269280, BE391823, AI214931, |
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| | AA812402, AI246222, BF973869, BE786993, AI830946, BE350137, AI222875, BF687846, |
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| | BE878516, AW731840, N57261, BE254071, N63813, BE303072, AA586783, N47918, |
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| | AW246857, BE383574, AA987252, AI200565, AI189099, AI142935, AW662124, T56225, |
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| | AA126263, AI274163, D26600, S71381, U65636, L17127, S82190, Z63133, T49861, T49862, |
| | T56367, T72170, T72948, T92867, T74728, R08625, R08719, R17408, R24674, R25174, |
| | R25378, R25997, R26800, R28401, R31330, R31589, R42642, R45259, R42642, R45259, |
| | R62552, R62553, R66386, R67726, R68781, R68878, H25120, H25121, H41115, H41190, |
| | H41191, R84227, R87629, H53386, H64419, H64476, H72640, H72641, H64419, H99301, |
| | N22341, N25846, N29370, N29843, N59763, N94171, W23786, W45524, W72111, W77797, |
| | AA010718, AA011164, AA033553, AA033554, AA062727, AA062741, AA062784, |
| | AA075470, AA081844, AA083492, AA08442, AA100358, AA126354, AA136544, |
| | AA136648, AA146862, AA146863, AA179509, AA179540, AA179775, AA180492, |
| | AA181719, AA188903, AA189140, AA226959, AA227247, AA225130, AA225233, |
| | AA226692, AA229645, AA229809, AA229844, AA507185, AA515981, AA535664, |
| | AA505025, AA580482, AA601109, AA610517, AA040009, AA570102, AA77051, |

| | | | | | AA815199, AA830586, AA911330, AA916092, AA918025, AA919062, AA935569, AA968500, AI001185, AI074161, AI085640, U47714, N84140, N85605, W22846, AI122703, |
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| | | | | | AA092477, AA211134, AA211135, AA435752, AA453192, AA454024, AA486315, A 6 6 3 3 8 17 7 4 6 6 6 7 7 7 7 7 4 |
| | | | | | AA989583, AI084759, AI088054, AI094555, AI095297, D19852, D31083, F04954, F07845, |
| | | | | | F00569, F00390, F01008, F12767, F10374, AA773788, A1270289, A1280920, A1285297, |
| | | | | | AI302214, AI306575, AI340120, AI361068, AI364270, AI417315, AI583912, AI149150, |
| | | | | | AI151225, AI183602, AI189111, AI204498, AI219001, AI219118, AI219203, AI219413, AI241508, AI267764, AI282123, AI862801, AI862014, AI018280, AI018621, AI027713 |
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| HCORG29 | 273 | 908566 | 1 - 1461 | 15 - 1475 | AL525031, AL530529, BF663306, BF971545, AW025025, BG258475, AU118761, BG032914, |
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| | | | | | BG164987, AA827927, AI554406, BG249820, AI524296, AI571895, BG180487, BE740527, |
| | | | | | BF525728, BE393489, AI572859, AI811667, AI570178, BE387716, BE620784, AI884603, |
| | | | | | BE879489, BF127513, BG253264, BF663728, BE395984, BG253562, BE905611, BF219300, |
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| | | | | | BF741466, AA931906, BF976950, AI814270, R94594, AI581915, AA282730, R92966, |
| | | | | | BG032240, BF342174, AI217691, BE812421, BF002679, AI384121, N27031, W56129, |
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| | | | | | AI695802, BE730633, AA429820, AI024066, AA031459, AA532849, AA772747, F37419, |
| | | | | | AA136087, AA873691, AI017375, AA625381, AW467861, AA994440, F30932, AA513042, |
| | | | | | A1191651, AA907866, R09570, F19496, AV741591, W52552, A1497696, BF035508, |
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| | | | | | AW627910, AI418637, R28551, BE907102, BF965846, R07147, H51877, F35932, H27315, |
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| | | | | | AA555277, AA304129, AI968949, R09479, AA570105, AA876458, AI160002, AA304639, |

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| AA219406, BF091159, BF091899, AA693496, AA609001, H67387, R45504, AU134927, |
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| | 1 - 371 | 1 - 2897 |
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| | 282 | 283 |
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| | | | | | AB047904, AL117583, AK026504, AB052200, AL049464, AF119871, AK000614, AF130099, AL049300, AJ238278, AK026534, A08910, AF130066, AF116682, E02349, AK024524. |
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| | | | | | AF067728, AX042059, S61953, AL117435, AK000323, U72620, E05822, AF183393, AF040802, AF118004, AV076201, AV |
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| | | | | | AF116610, AF175983, AK027204, AK026642, R09167, AA476684, AA904630, D25837, and AI873137. |
| HRGDC33 | 284 | 997862 | 1 - 1826 | 15 - 1840 | AL530171, BG167455, AW341526, AA143021, AI621276, BE695940, BF540992, BE695955, |
| | | | | | N34863, AW593873, AL530172, AW196758, BF223067, BF223008, BG054486, AI392748, AI807788 AI147033 BE666752, AI634124, AW204647, BE438607, AA203870, BE476285 |
| | | | | | BE866767, AW276898, BF434775, BF103871, AV712302, AV711800, BF983985, AI392984, |
| | | | | | R63482, AI680602, R63481, BF507828, BF688635, BF908078, AI795905, AI444949, |
| | , | | | | BGI/8163, BEU48998, AW269138, BF689020, AA251885, AA150912, BE566036, |
| | | | | | AW661602 RF913145 AA937288 F29869 AI924910 AI908447 AW801114, DE001376, AW074034, |
| | | | | | BF215227, N43936, BF676410, AI969745, BF061733, BF796686, AI990282, AW884388, |
| | | | | | AL109918, AP000568, AP001676, and AR022362. |
| HIMTMB91 | 285 | 997873 | 1 - 1162 | 15 - 1176 | AV755264, BF577013, AI923558, AW268804, AW469653, AA760854, AA580566, |
| | | | | | AA580691, AA836465, BF899990, BF926478, AA768321, BF514639, BF088900, AW392416, |
| | | | | | AI8S5519, BF061/15, BE88882/, AW129/64, AI951031, AW858464, AI936012, 140389, |
| | | | : | | AW392849, AI820997, AW858513, BF950338, AW836417, AW392833, AI821288, BE503330, |
| | | | | | AWS1/091, AW/20401, BG11404/, ALZ/2943, AF10990/, AC004828, X1201/, AKU2010/, AR060046, and AR060053. |
| HFAAD07 | 286 | 650866 | 1 - 988 | 15 - 1002 | AV684787, BE674615, AI887753, BG258585, BE218749, BF224413, BG165003, AI702451, |
| | | | | | BF224407, AA548464, AI978680, AA071156, AA191693, BF570780, BE738364, AI797896, |
| | | | | | A1826052, AA041342, AW014334, T62575, AA197202, A1084270, AW375498, BE775118, |
| | | ٠ | | | BF333104, AA186041, BF431428, AU133080, AA0U2203, BF731338, BF303021, BF133009, HIN377 H20737 TK3180 AII11730 R71707 AI820544 BF645507 BF815650 BF247171 |
| | | | | | BE701182. T62541. AI659397. AI868867. AI810306. R40856. BG110361. AI701277. |
| | | | | | AA602213, T62616, AI221666, AA070862, AA860281, BF718478, AA191265, BF088816, |
| | | | | | BE090765, BE840583, D25992, BE704032, BF692434, AW754457, AW363933, BE540276, |
| | | | | - | AI217112, AA528408, BF981414, BG015645, AI633390, AV727030, AI199435, AK023434, |
| + | 797 | 008517 | 1 1994 | 15 1909 | ABUZZUJO, ALIJZZGGO, AFILIZUGS, ALUJZGGU, AIIG ANUZIGGI. |
| HE81G0/ | 797 | 716866 | 1 - 1884 | 13 - 1898 | AL537/29, BF946881, AL536527, AL517363, AL518630, AL525343, BE621523, AL536921, A1040011, AL531577, AA704144, AL516123, BE271006, BE540109, BE619747, AL533503, |
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| BGG034845, AND ALSJ3703, BEB1378, AA77234, BF59960, ANZ34318, AA62235, BGG034845, AR939741, BF813799, AA770011, AV3018451, BF813799, AA770011, AV301846, AV83741, BF813799, BF813784, AA818003, BF80170, AA770011, AV802465, BP594453, BF526361, AA616022, AA618009, AA482569, AA818019, AA770191, AV807041, AA107202, BEG02026, AV820767, AA102613, AV8069495, BF73946, AA81801901, AV807049, AA107203, BF802026, AV8007017, AV8001469, AL119020, BF802026, AV800761, AV8001469, AL119020, BF802026, AV800763, BF802036, AV8001469, AL119020, BF802026, AU144390, AA521772, AU147764, AU1907764, AU190376, AA190303, AA818739, AA47754, AU190393, AA6187320, AA1907967, AU1903970, AU190373, BF802026, AL19390, AA181300, AA181300, BF80202, AA88209, AA181300, AA181300, AA181300, BF80202, AA88209, AA181300, A |
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| | AL050024, AK000618, I33392, AK000212, AF153205, AK025798, AK000310, 109499, |
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| - | S76508, 189934, AF116644, AF119883, AF090943, AK027121, AB048953, AK000250, |
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| | R33993, R34880, R36088, R36183, R41327, R53706, R41327, R72170, R73657, R76025, |
| | R76227, R78754, H15810, H19741, H20074, H26185, H28046, H39612, H42479, H44400, |
| | R85909, R87326, R88467, R90835, R90836, R90927, R96270, H51203, H51431, H51570, |
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| | AA016059, AA017717, AA029411, AA029277, AA065039, AA071000, AA074465, |
| | AA113882, AA171923, AA533376, AA551621, AA551734, AA584329, AA568455, |
| | AA657809, AA745127, AA761504, AA804720, AA834831, AA857175, AA968508, |
| | AA976763, AA291776, AA427412, AA476955, AA669654, F22178, AA852221, AA861255, |
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| | AI654280, AI272156, AI587318, AI613240, AI689548, AI690603, AI744851, AI745467, |
| | AI799307, AI859423, AI859509, AI919574, AI953465, AI963535, AW016491, AW088681, |
| | AW071042, AW128909, AW130417, AW131920, AW152670, AW197018, AW078705, |
| | AW0/9199, and AW33/323. |

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|--|---|---|
| 15 - 541 | 15 - 1065 | 15 - 2411 |
| 1 - 527 | 1 - 1051 | 1 - 2397 |
| 998533 | 998901 | 506866 |
| 288 | 289 | 290 |
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| HOPKS83 | 593 | 999148 | 1 - 2249 | 15 - 2263 | AL522394, AL533573, N99342, AL516958, AL535381, AL523241, AL535062, AL51695, AL51695, AL516957, AL532304, AL535382, AL516957, AL53240, BE562445, BG105219, BE612965, BE312728, BF312923, BF315986, BF035342, AU118409, BF743128, AU119979, BF317065, BF315006, AI911669, BF206582, BE378738, BF314738, AI920919, BF307782, BE393973, AL517298, BG105346, BF206582, BE378738, BF314738, AI920919, BF307782, BE393973, AL517298, BG20956, BF312608, BE39566, BF312608, BE39565, BF312608, BE395974, BF209595, BE878702, BE314559, BE299563, AI863033, BF79435, BF794301, BE299754, BF038495, AU541539, BE240550, BE889577, BF310262, BE296433, BF034462, BG11774, AL517299, BE540363, BE881335, BF038464, BF310262, BE296433, BF038482, BF33653, BF038482, BF33653, BF038482, BF33653, BF038482, BF33653, BF038482, BF33653, BF038482, BF310263, BF038482, BF310354, AI467799, BF038559, BE395734, AI640374, AW474516, AW860949, AI467799, BF038659, BE3903734, BE703774, AI623575, AI198705, BF317016, AI688407, AI31027, AI951929, BF93774, AI623575, AI198705, BF317016, AI688407, AI31027, AI951929, BF93774, AI623575, AI198705, BF317016, AI688407, AI31027, AI951929, BF311734, AW951865, BE963708, AW67183, AI61322, AA613136, AI144411, AI080066, AI469776, BE208239, AI84687, AA728764, AI859483, AI63226, AI366166, BF822766, BF03817, BF3169004, AA728764, AI859489, R72685, W74501, W61097, BF092603, BF092637, BF948453, AI6493863, AI038204, AA557265, BF092603, BF092637, BF948453, AI649388, BE30442, BG059628, AI34506, AI46509, AI639294, AI649388, BE30442, BG059628, AI645099, AI64509, AI64509, AI64509, AI645739, AI646309, AI64660, AI8104938, BB20423, AI04988, BE30442, BG019825, AI589495, BF941214, H48071, AI018149, BE019825, AI58995, BF9412314, H48071, AI018149, BE019825, AI58995, BF941872, W58139, AW511638, |

| AA11889, BEB30455, AW79788, N42429, AI80745, AA564365, AW664134, AA62889, BEB3045, RES9045, BAW79788, N42419, AA10731, BF948713, AA002933, AA278256, T86572, AW860351, COSSR8, R69902, R87596, AA410731, BF948447, BE167227, AA292369, H15300, BE272841, AW265784, BEB30458, AA586799, W74210, AA428501, AI634229, F11464, AR062322, AA827348, BE162645, BF948448, AI53677, BE562938, AI139675, U60644, AR062131, AL17453, T48978, AK026480, X72889, AF056191, AL080124, AL13753, AK000445, AL17463, T48978, AK026464, AK026647, AB049758, AL080124, AL107651, AL080110, AB04879, AR026647, AB049758, AL137533, AK000445, AL137641, AR021378, AK027176, AL10627, AL137641, AR034821, AL133935, AR081734, AF116650, AF111849, M88626, AK027136, AF110659, AF111849, M88626, AK027136, AF110659, AF111849, M88626, AK027136, AF111669, AR03935, AF110659, AF111849, M88626, AK027136, AF111669, AR03935, AF110659, AF111849, AR034874, AL122100, AR0312, AF11062729, AL1107641, AR03935, AF1102009, AR03935, AF110582, AL10225, AK029474, AL122100, AR0312, AF15824, AF110678, AR03883, AF110599, AR03883, AF110599, AR03933, AR13733, AR03883, AR13733, AR13733, AR13733, AR03883, AR03833, AR03883, AR03893, AR03883, | AA18830, BAS8739, R89725, AW79788, IA2222, AR80745, AW66454, AA186289, AA58739, R89725, AW803594, BE830543, BE830543, BE80542, AR80781, AR807893, AA387850, H15300, BE272841, AW262784, BE820548, AA81099, W12410, AA42801, A654229, H15300, BE272841, AW262784, BE1602645, BF948448, AI536771, BE948447, AE160293, AA139675, U60694, AF026124, AC010271, AL117435, 148978, AA5026040, X72889, AF086191, AL080126, AL137533, AK000445, AL137548, S36676, AL35701, I89947, AR020095, AL080126, AL13733, AK000445, AL137548, S36676, AL355701, I89947, AR020694, AR08124, AL13733, AK006445, E00617, BO0717, BO0774, AF200464, AK026667, AB99758, AR0999, 103734, AL106802, AR02541, AB040719, AR048974, AF116084, AR034824, AK077164, AF116086, AR11849, M88658, AR027164, AF116644, A008909, AR0999, U73682, AL137641, AR034821, AL133031, AL137292, A08910, AF116049, AR03834, AF116088, AR08973, A91160, AR08912, AF116341, AR03913, AS11604, AR08834, AR116084, AR08834, AR116084, AR08834, AR116084, AR08913, AS11604, AR08913, AS11604, AR08913, AS11604, AR08913, AS11604, AR08913, AS11604, AR08913, AS11604, AR08834, AR116084, AR08913, AS11604, AR08913, AS11604, AR08913, AS11604, AR08834, AR116084, AR08913, AS11604, AR08913, AS11604, AR08912, AR09394, AL137292, AR08913, AR09394, AL137292, AR08913, AR09394, AR08983, AR08983, AR119893, AR08913, AR08914, AR08984, AR08984, AR08984, AR08983, AR08983, AR08983, AR0898, AR0898, AR08988, AR08984, AR08984, AR08883, AR08983, AR089891, AR08983, AR089894, AR089892, AR089892, AR08988, AR089894, AR089892, AR089892, AR089892, AR089892, AR089998, AR089998, AR089998, AR089998, AR089998, AR089998, AR089998, AR089998, AR089999, AR089999, AR089999, AR089999, AR089999, AR089999, AR099999, AR08998, AR089999, AR089999, AR0899999999, AR099999, AR099999, AR099999, AR099999, AR099999, AR099999, AR099999, AR099999, AR099999, | AA15839, BES304S, DES304S, AWY97888, NACA29, AI80784S, AA564B65, AW6641S4, AA662859, AA57827B, RS677A, AW862859, AA57827B, RS677A, AW862859, AA578266, T8657A, AW86231, C00858, R69902, R8796, AA410731, BF948447, BE16727, AA292369, H15300 BEZ72841, AW72678, BE16264S, BF948448, AL536577, BE562038, AI197575, U60644, AR026124, AC010271, AL117435, 148978, AK026460, X72889, AF026191, AL60644, AR026124, AC010271, AL117435, 148978, AK026460, X72889, AF026191, AL60644, AR026124, AC010271, AL117435, 148978, AK026461, X72889, AF026191, AL60644, AR026124, AC010271, AL117435, AK020474, AF0206464, AK026667, AB04778, AR0061045, AL050146, E00617, E00717, E00778, AK026506, U95114, AF130099, H8979, 132738, S61953, A77033, A71031, A71033, A71031, A71033, A71031, A71033, A7103, A71033, A710333, A710333, A710333, A710333, A710333, A71033, A710333, A710333, A710333, A710333, A710333, A710333, A71033, A710333, |
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